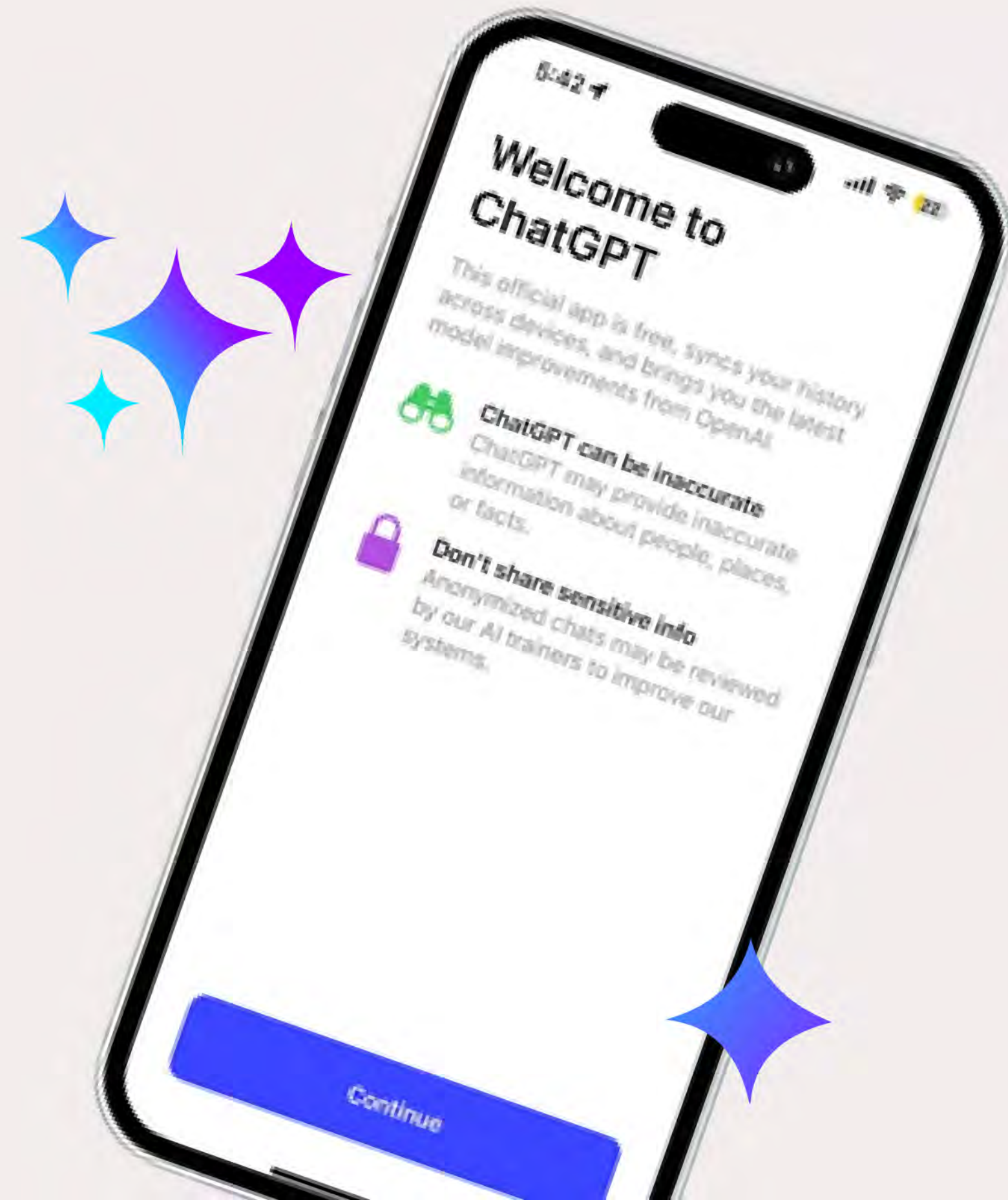


Cultivating Capacity for AI Leadership in Schools



Jane Kim

educator, parent, innovator,
lifelong learner



Outcomes for the session

- Understand how AI is reshaping classrooms and the purpose of education and long-term child development



Outcomes for the session

- Understand how AI is reshaping classrooms and the purpose of education and long-term child development
- Examine AI design shapes student thinking, learning habits, and well-being



Outcomes for the session

- Understand how AI is reshaping classrooms and the purpose of education and long-term child development
- Examine AI design shapes student thinking, learning habits, and well-being
- Share practical AI readiness steps for schools using systems thinking





what is the purpose
of education?

whole school
whole community
whole child

what does this
mean to **you**?



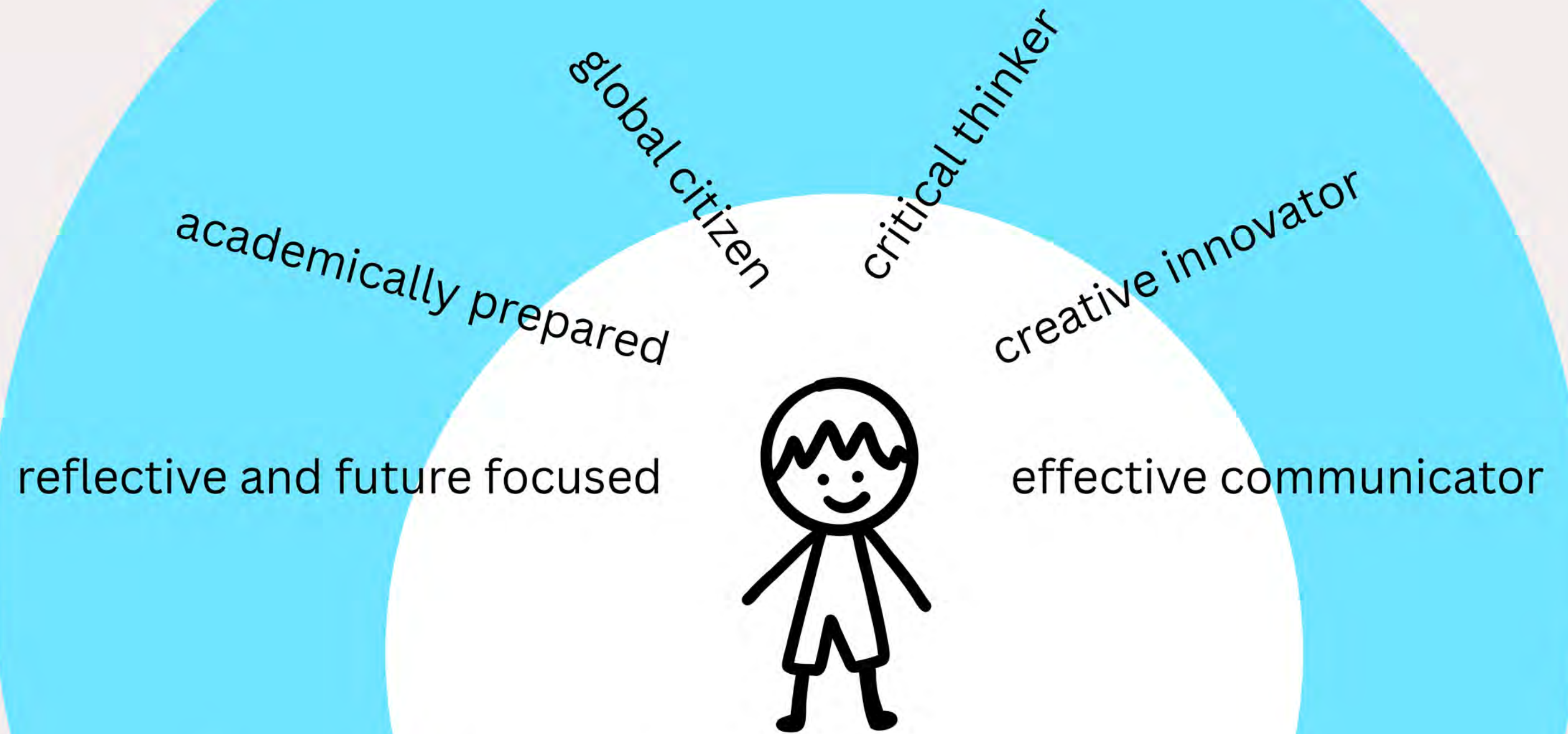


whole child approach

portrait of a graduate
portrait of a learner

what does this
mean to *you*?

DISCUSS!

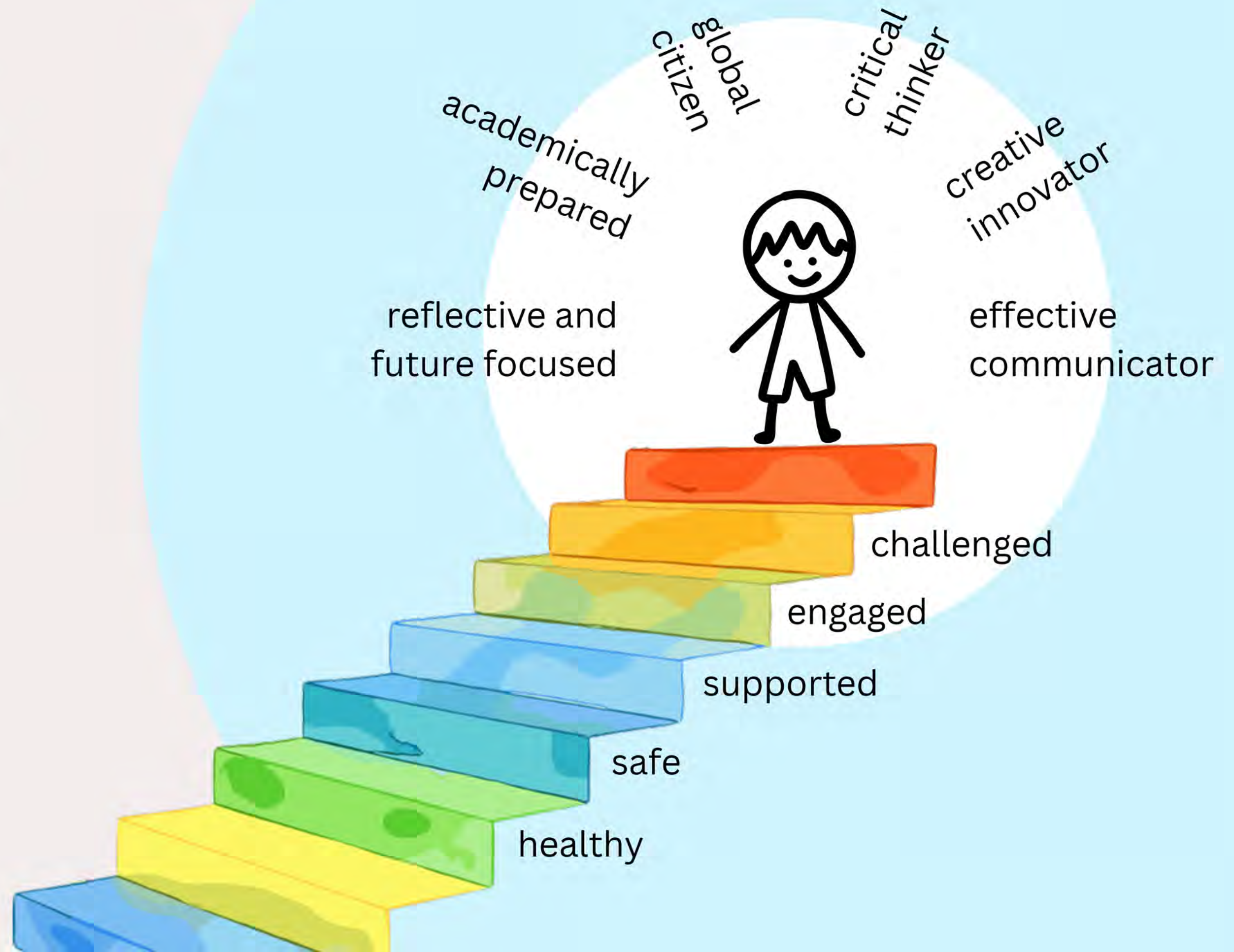


portrait of a learner

**portrait of a
learner**

+

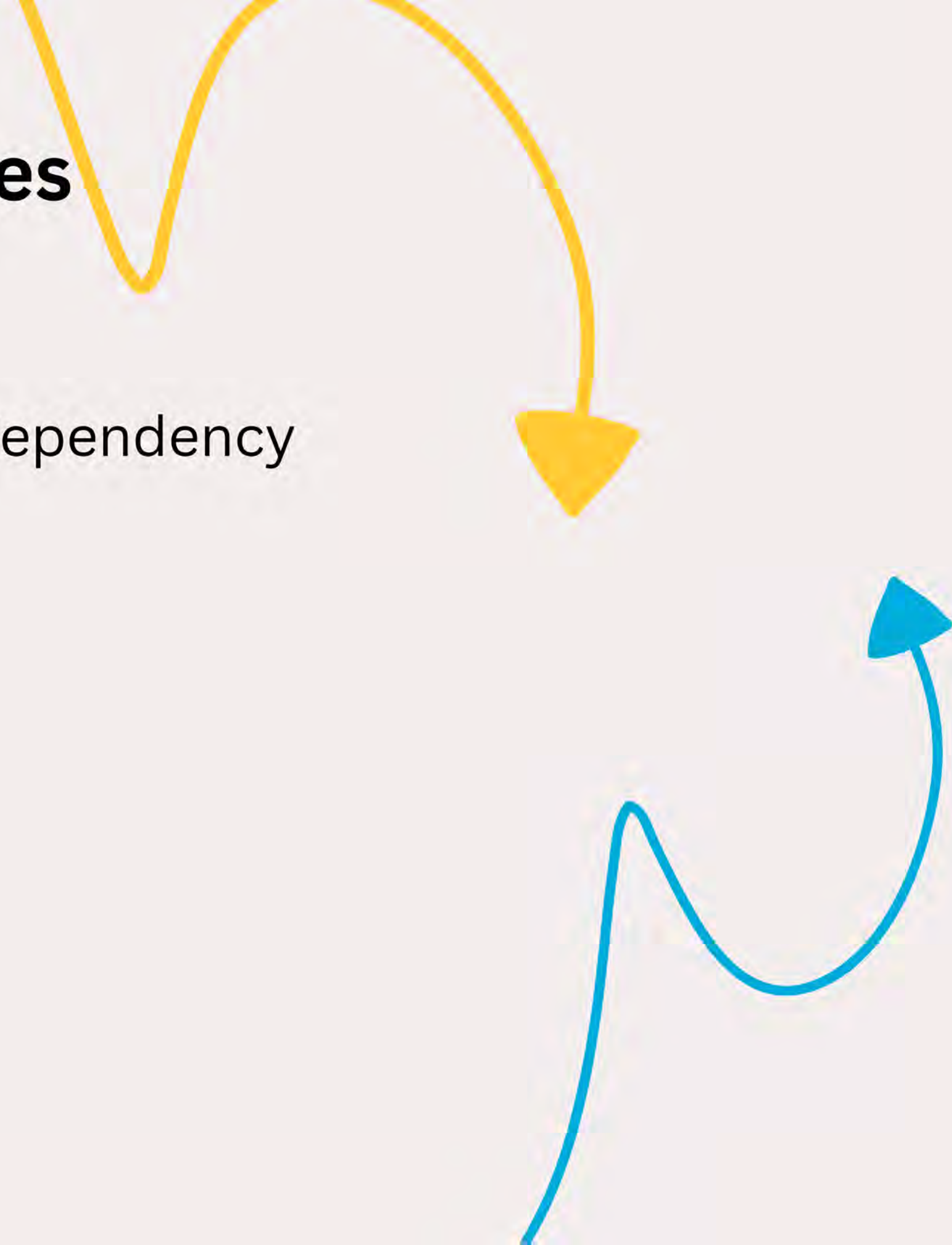
**whole child
approach**



Everyone gets a



Schools face many challenges

A decorative graphic on the right side of the slide. It features a yellow wavy line at the top that ends in a downward-pointing arrow. Below it, a blue wavy line starts from the bottom left and ends in an upward-pointing arrow.

- National declines in learning
- Global youth mental health crisis
- Increasing rates of screen use and dependency
- Rising political extremism
- Loneliness epidemic
- Eating disorders up
- Disengagement in schools
- Rising truancy and absenteeism
- Reduced attention spans
- Rising ADHD/ADD

AI is already here

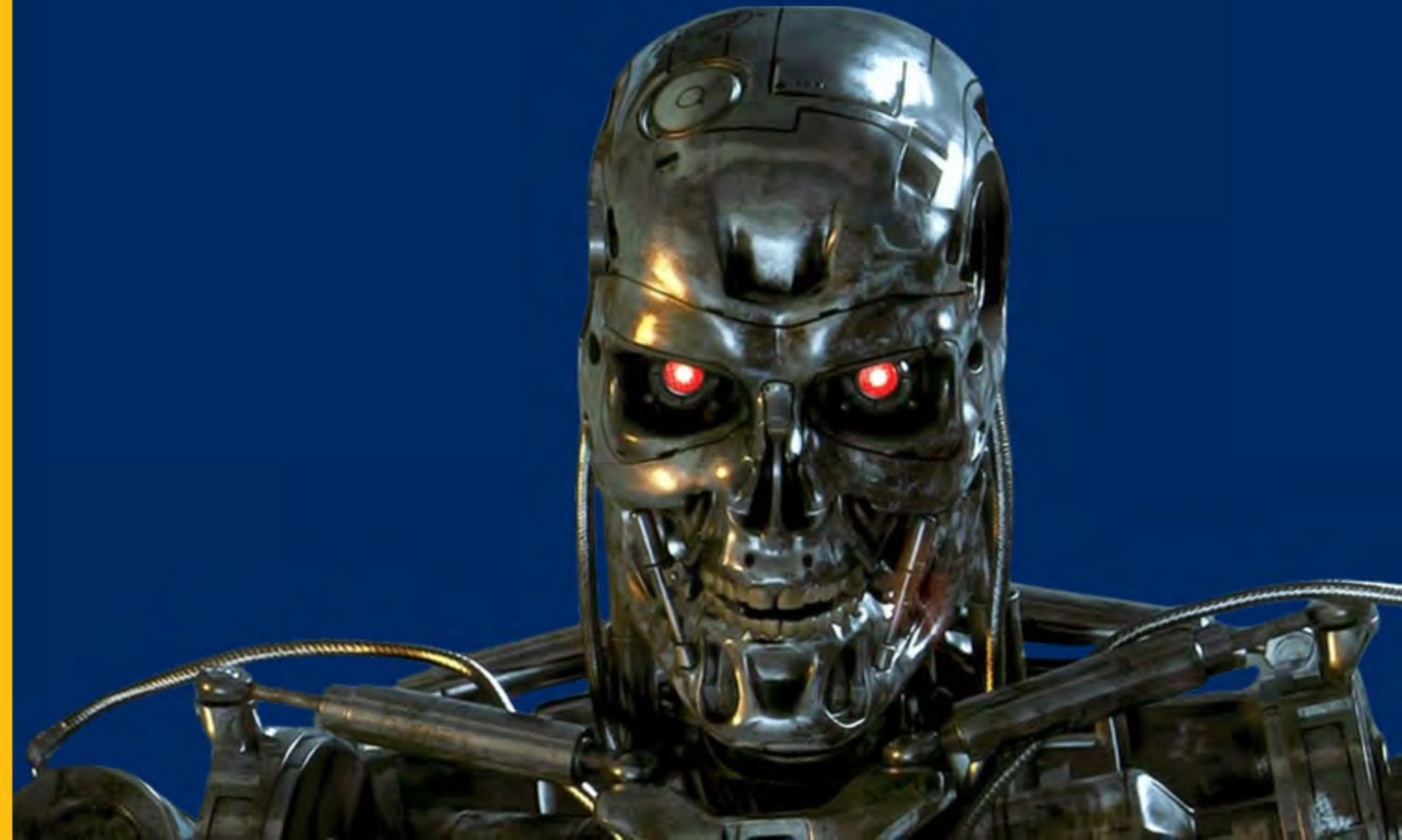
- AI → enters classrooms
- Default in browsers, email, summarizing texts
- School spending increasing
- National trends in AI use
- Adoption?
- Refusal?



ADOPT

AI

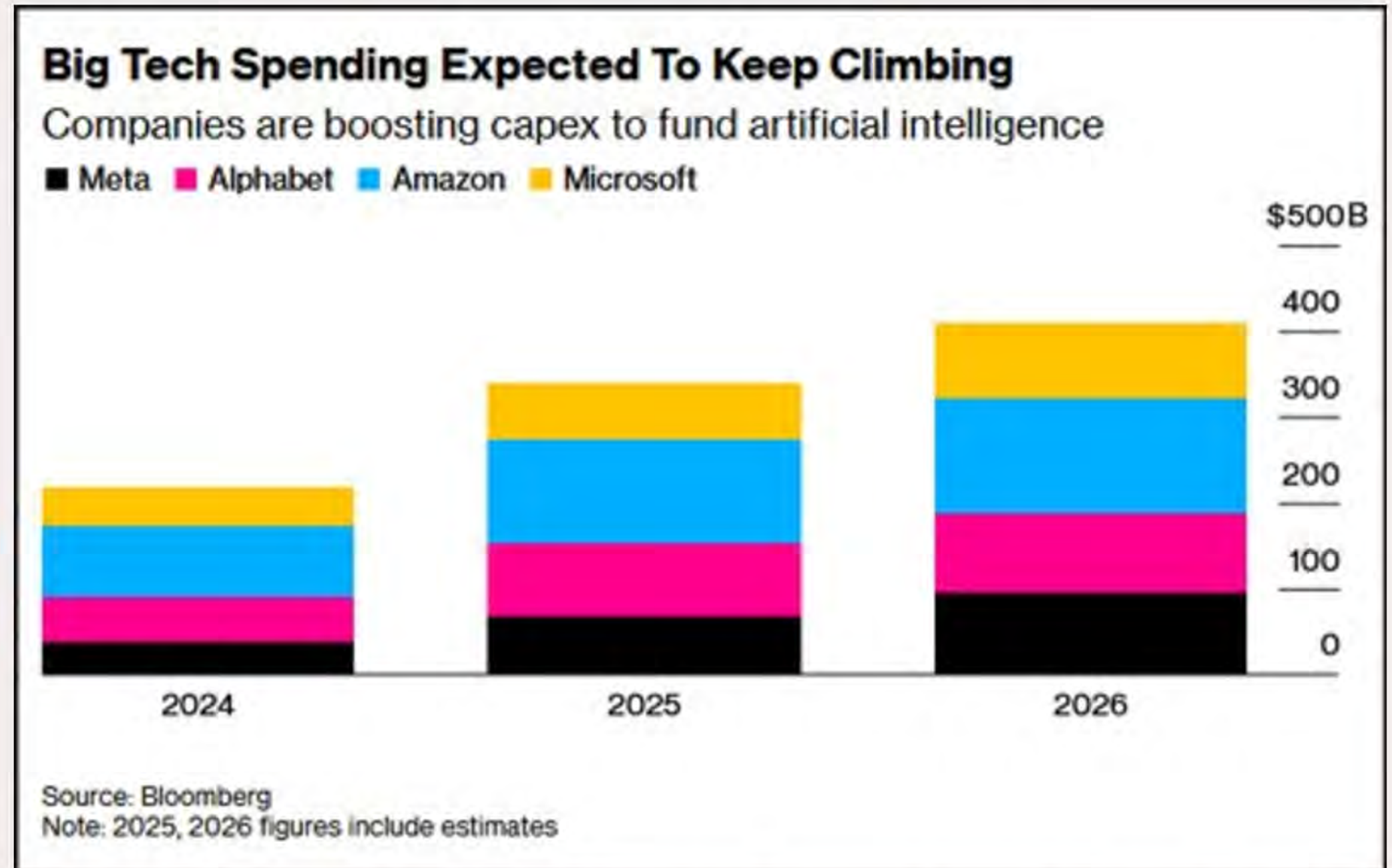
RESIST



Pressure by design

- FOMO is artificially constructed
- Lots of money poured into this
- AI fills uncertainty
- Illusion of saving time

Focus is on efficiency and productivity



<https://techblog.comsoc.org/2025/11/01/ai-spending-boom-accelerates-big-tech-to-invest-invest-an-aggregate-of-400-billion-in-2025-more-in-2026/>

K-12 schools spent \$21-47 billion on SEL in 2017

SCHOOLS AND DISTRICTS ARE SPENDING ANNUALLY ON SEL PRODUCTS AND PROGRAMS

\$640 million spent per year

TEACHERS SPEND IN- AND OUT-OF-CLASSROOM TIME TO PLAN AND IMPLEMENT SEL

Approximately 8% of time is spent (4 hrs/wk)

Figure 1: Total Annual Spending on SEL Products in U.S. K-12 Schools

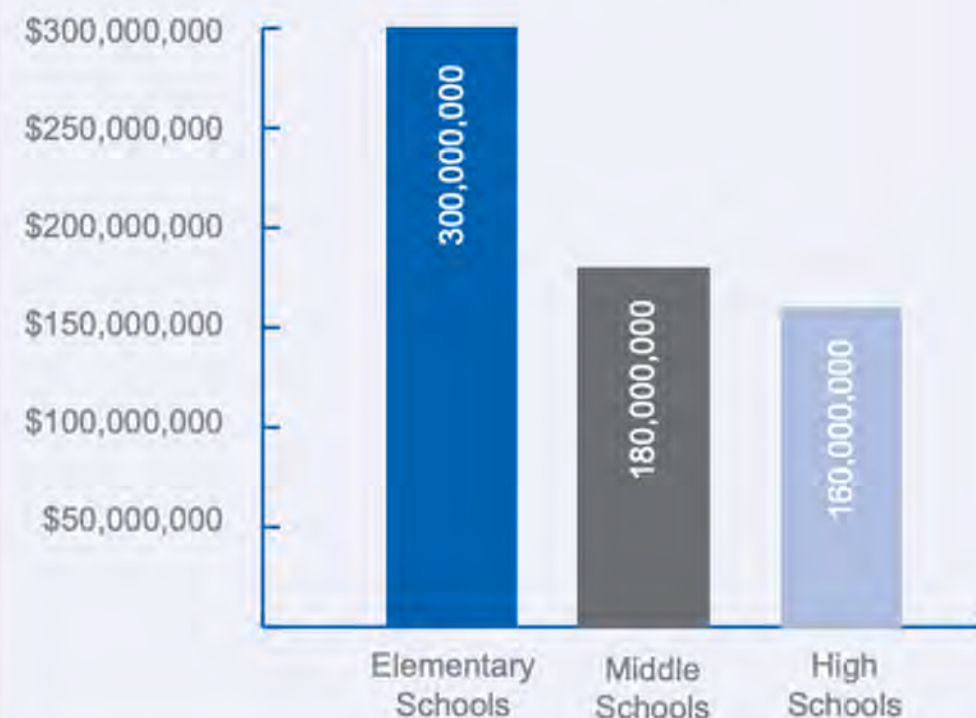


Figure 2: Per Pupil Spending on SEL Products in U.S. K-12 Schools

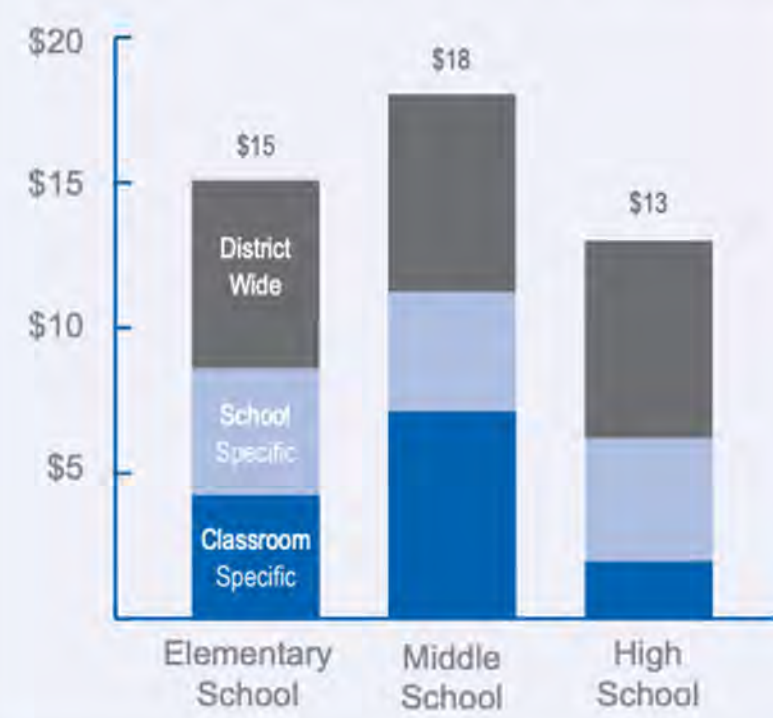
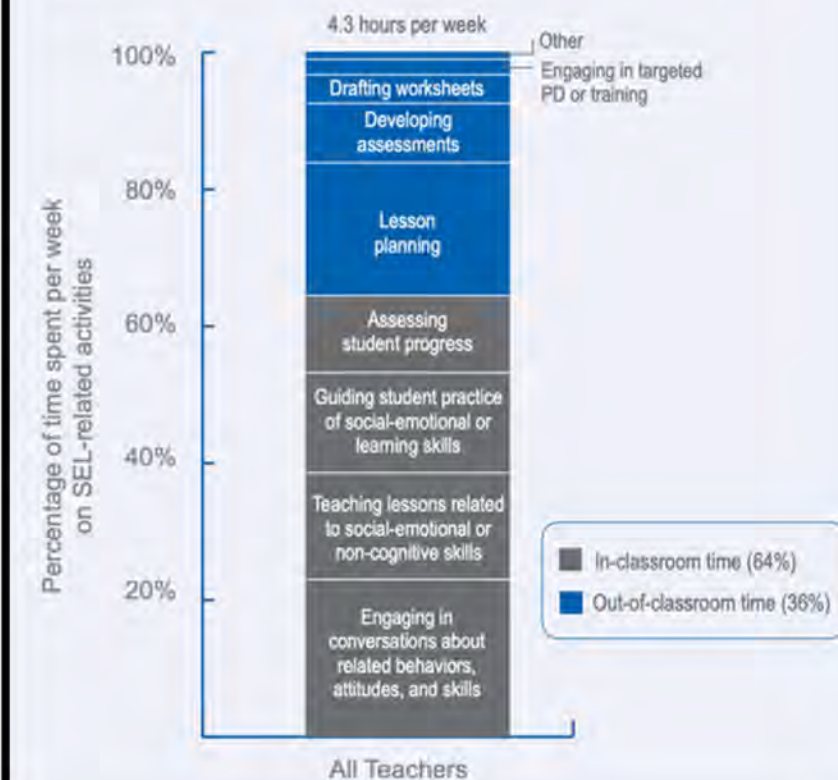


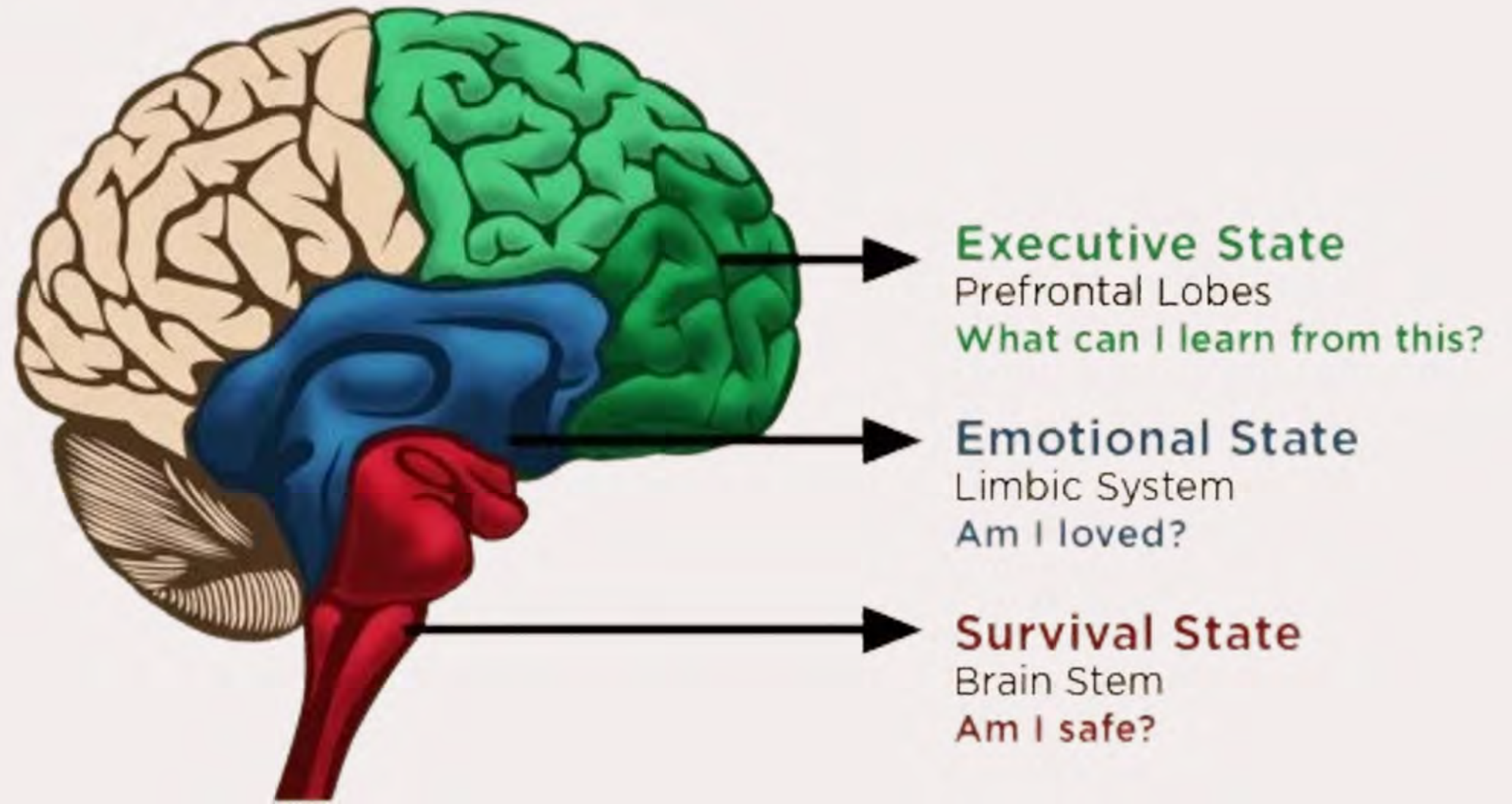
Figure 5: Breakdown of Teacher Time Spent on SEL



Sara Krachman & Bob Larocca (2017). The Scale of Our Investment in Social-Emotional Learning.

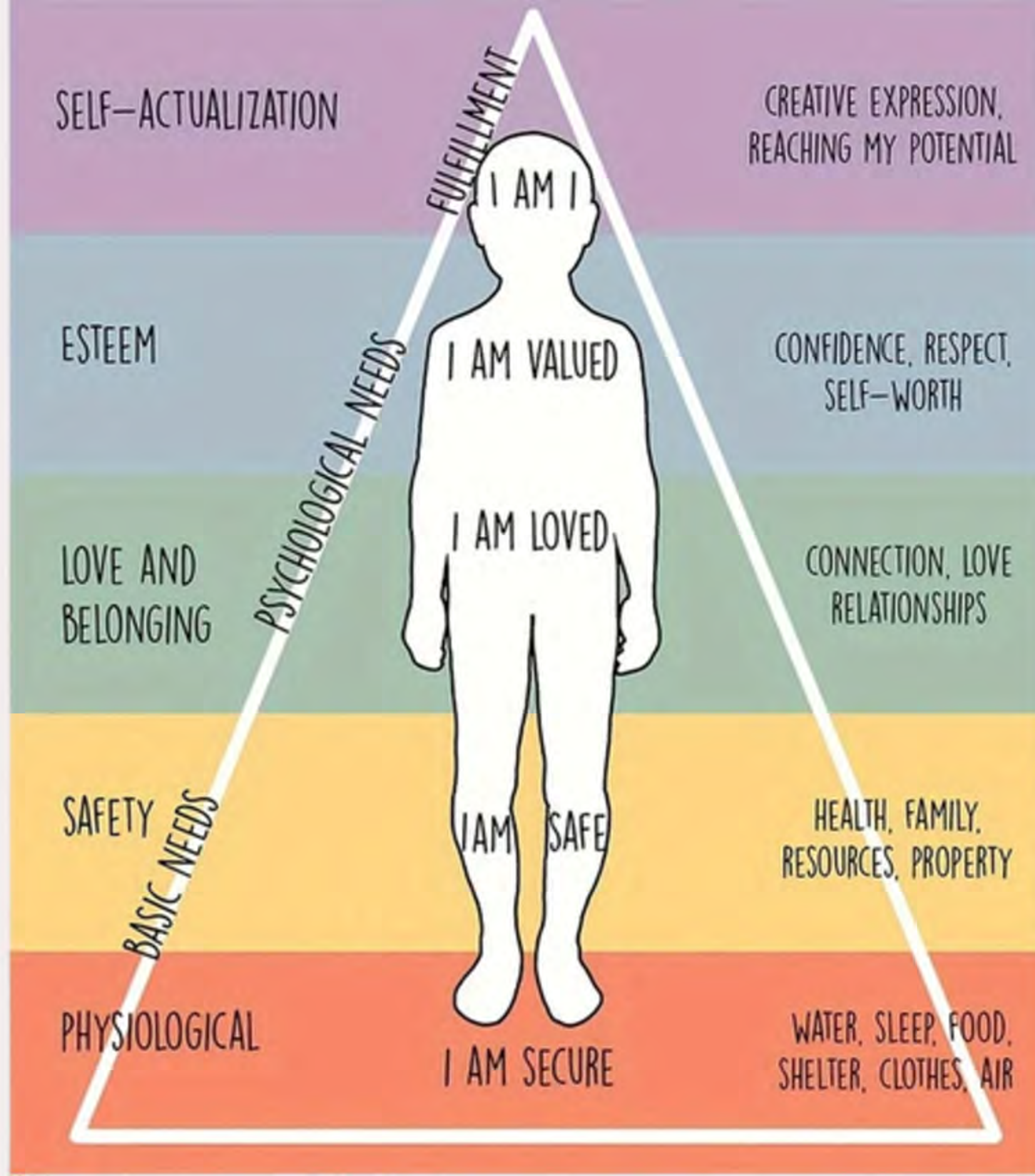
Brain and development

- Frontal lobe
- Emotional center
- Brain stem



Maslow's Hierarchy of Needs

1. Basic needs
2. Psychological safety
3. Cognitively rigorous tasks



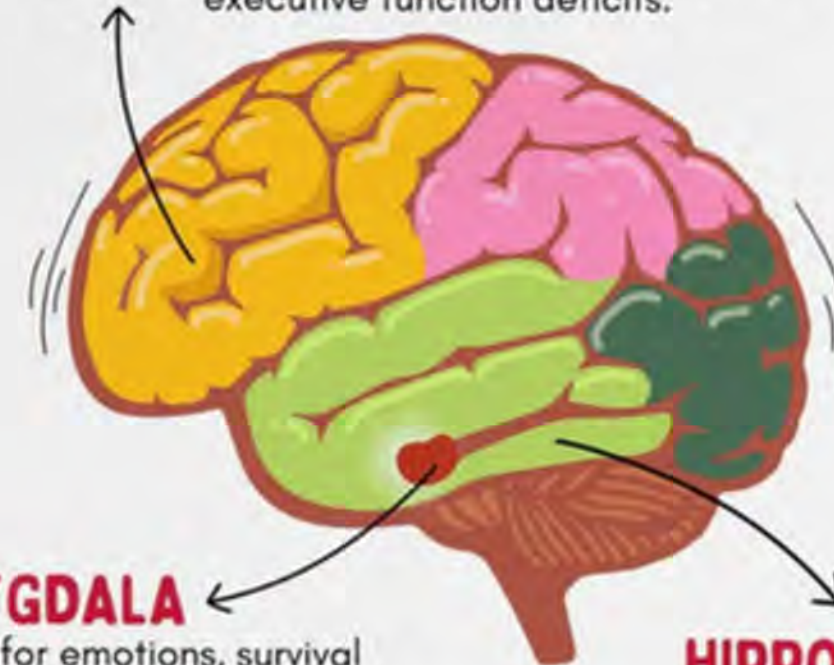
Brain and trauma

- Prefrontal cortex
 - Regulates emotions
 - Executive functions
 - Rational thinking
- Amygdala
 - Emotions
 - Survival instincts
 - Hyperactivity
- Hippocampus
 - Assists with learning and memory storage
 - Trauma makes it shrink

How Trauma Affects The Brain

PREFRONTAL CORTEX

Regulates emotions, executive functions, and assists with rational thinking. After trauma, your prefrontal cortex will have a hard time regulating fear and other emotions. It reduces your ability to think rationally, and may cause executive function deficits.



AMYGDALA

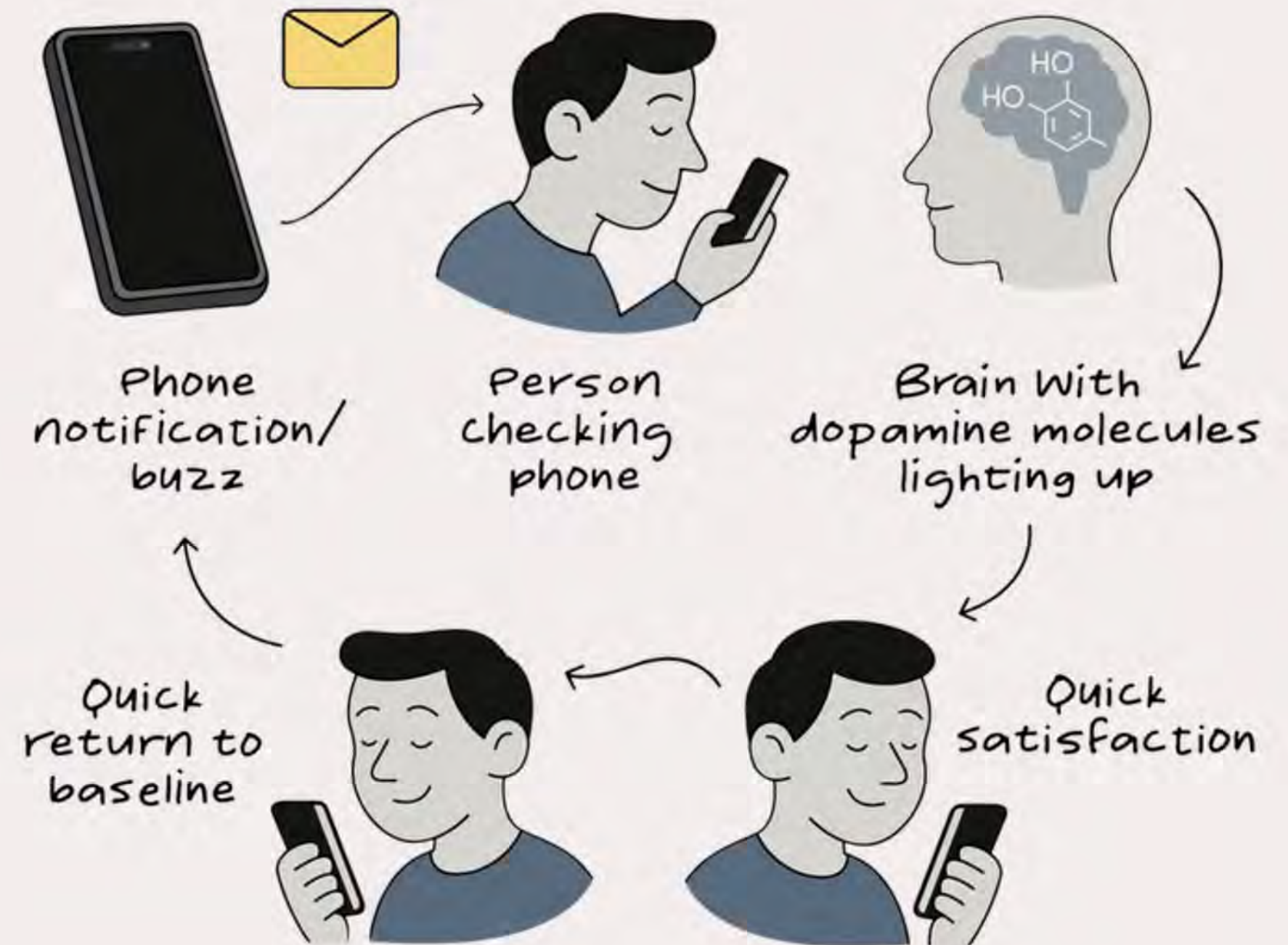
Responsible for emotions, survival instincts, and memory. Trauma causes the amygdala to become hyperactive. This can lead to heightened fear, chronic stress, and increased irritation. It can also make it harder to calm down or sleep.

HIPPOCAMPUS

Assists with learning and memory storage, responsible for differentiating between past and present. Trauma may make it difficult to recall some memories, while causing other memories to be extremely vivid and constant. It can also make the hippocampus shrink.

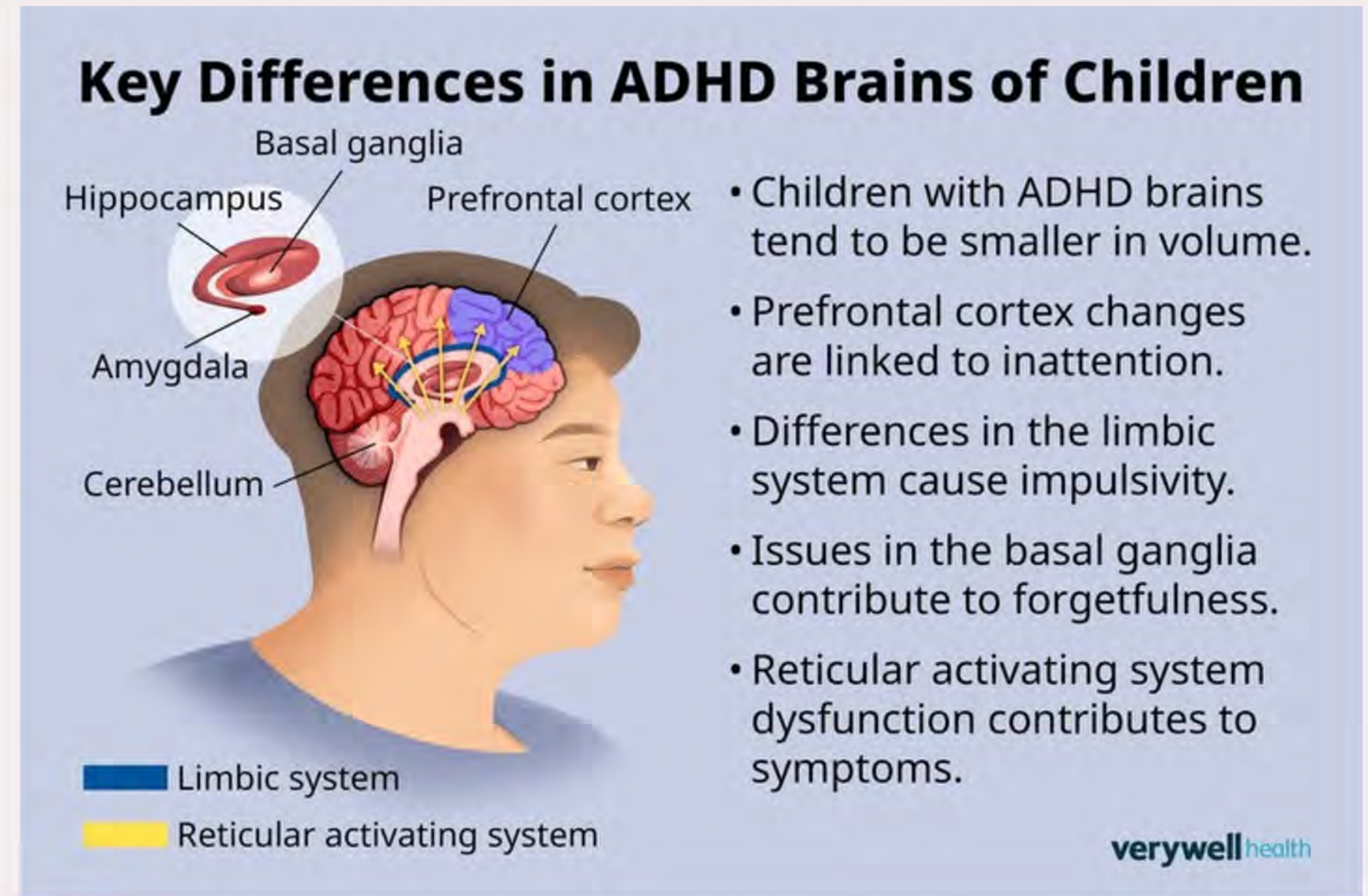
Dopamine conditioning

- Prefrontal cortex
 - Regulates emotions
 - Executive functions
 - Rational thinking
- Amygdala
 - Emotions
 - Survival instincts
 - Hyperactivity = bad
- Hippocampus
 - Assists with learning and memory storage
 - Trauma makes it shrink



ADHD on the brain

- Prefrontal cortex
 - Intersection for attention, behavior, and emotional response
 - Attention is switched easily
- Amygdala (limbic system)
 - Regulates emotions
 - Deficiency of dopamine results in restlessness, inattention, or emotional volatility
- Hippocampus (basal ganglia)
 - A “short circuit” can cause inattention or impulsivity



<https://www.verywellhealth.com/adhd-attention-deficit-hyperactivity-disorder-included-definition-symptoms-traits-causes-treatment-5084784>

Literacy development

Listen



Literacy development

Listen



Speak



Literacy development

Listen



Speak



Read



Literacy development

Listen



Speak



Read



Write



In the last decade there has been a rise in devices and social media use among youth



Tech Adoption in Schools

Schools rapidly adopted tablets like Chromebooks, reducing outdoor and face-to-face learning

In the last decade there has been a rise in devices and social media use among youth



Tech Adoption in Schools

Schools rapidly adopted tablets like Chromebooks, reducing outdoor and face-to-face learning



Big Wins for EdTech

90% of educators say every middle and high schooler has a device, driving major sales for tech firms

In the last decade there has been a rise in devices and social media use among youth



Tech Adoption in Schools

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Big Wins for EdTech

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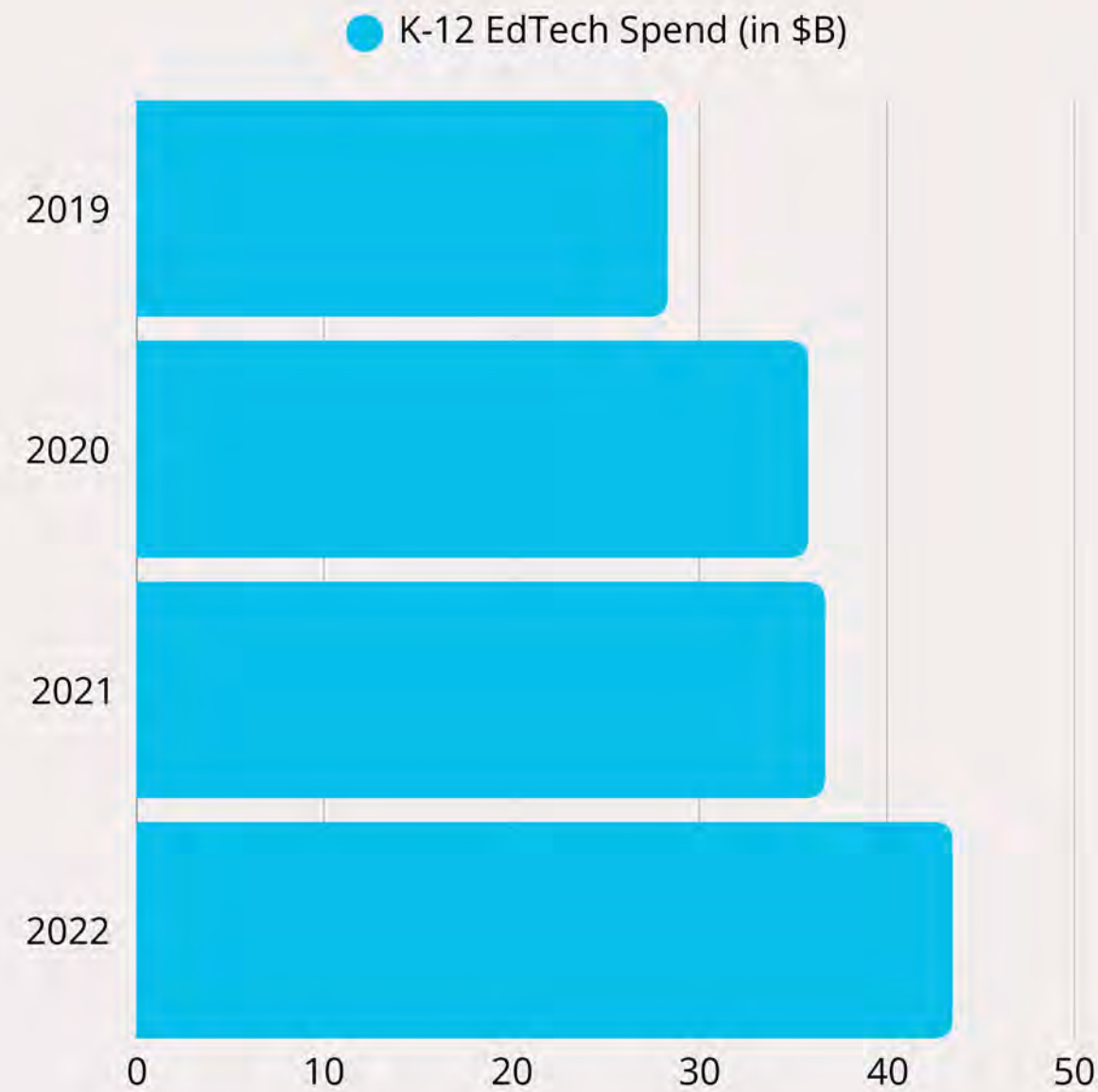
Impact on Students

Screen-first learning limits collaboration, foundational skills, and personal growth

Educators observe a decline in attention, engagement, and overall academic success

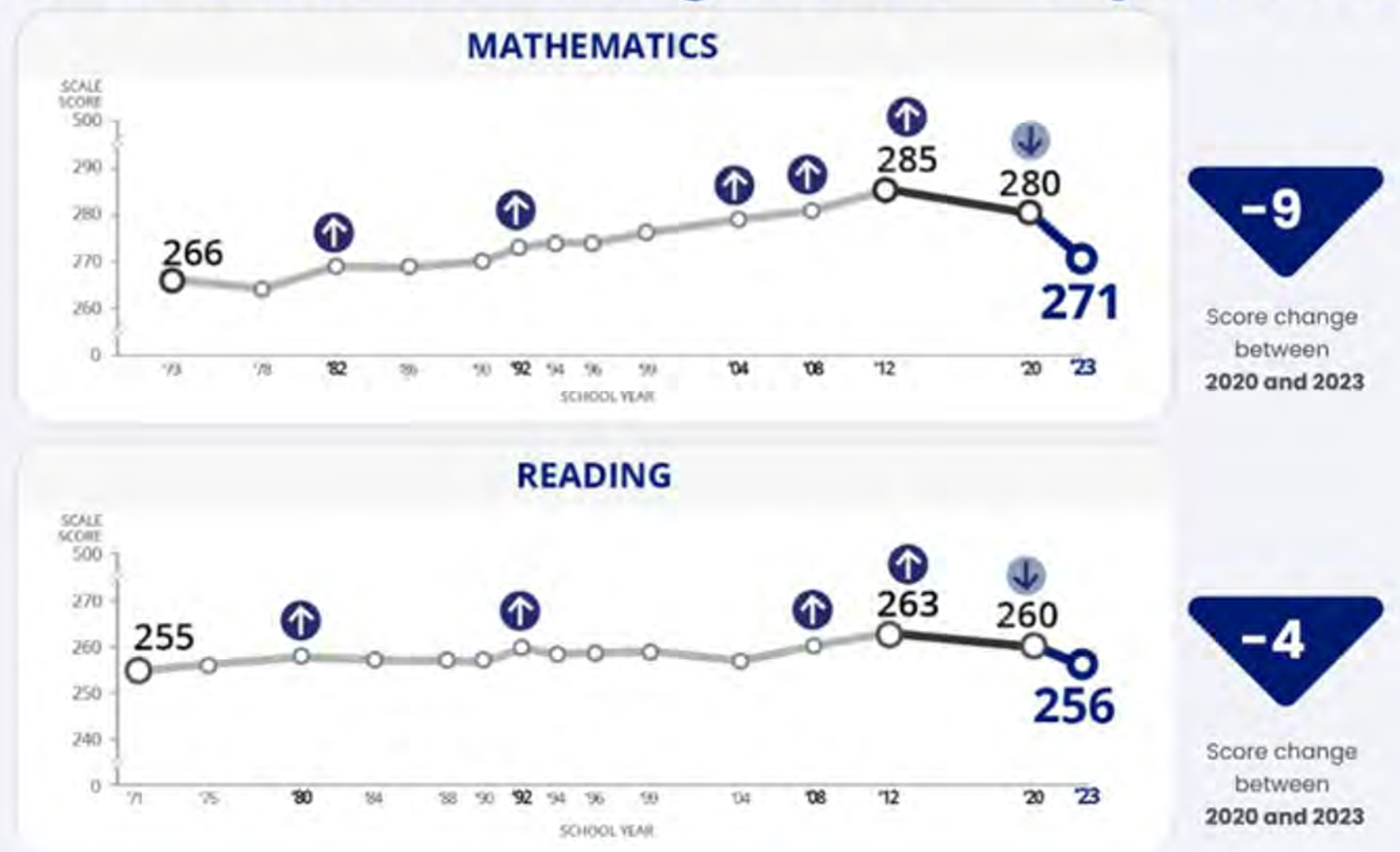
EdTech has not improved learning outcomes

K-12 EdTech Spending Has Exploded Since Pandemic¹



National Reading and Math Scores Have Declined Since Pandemic²

NAEP Math & Reading Scores — 13 year olds



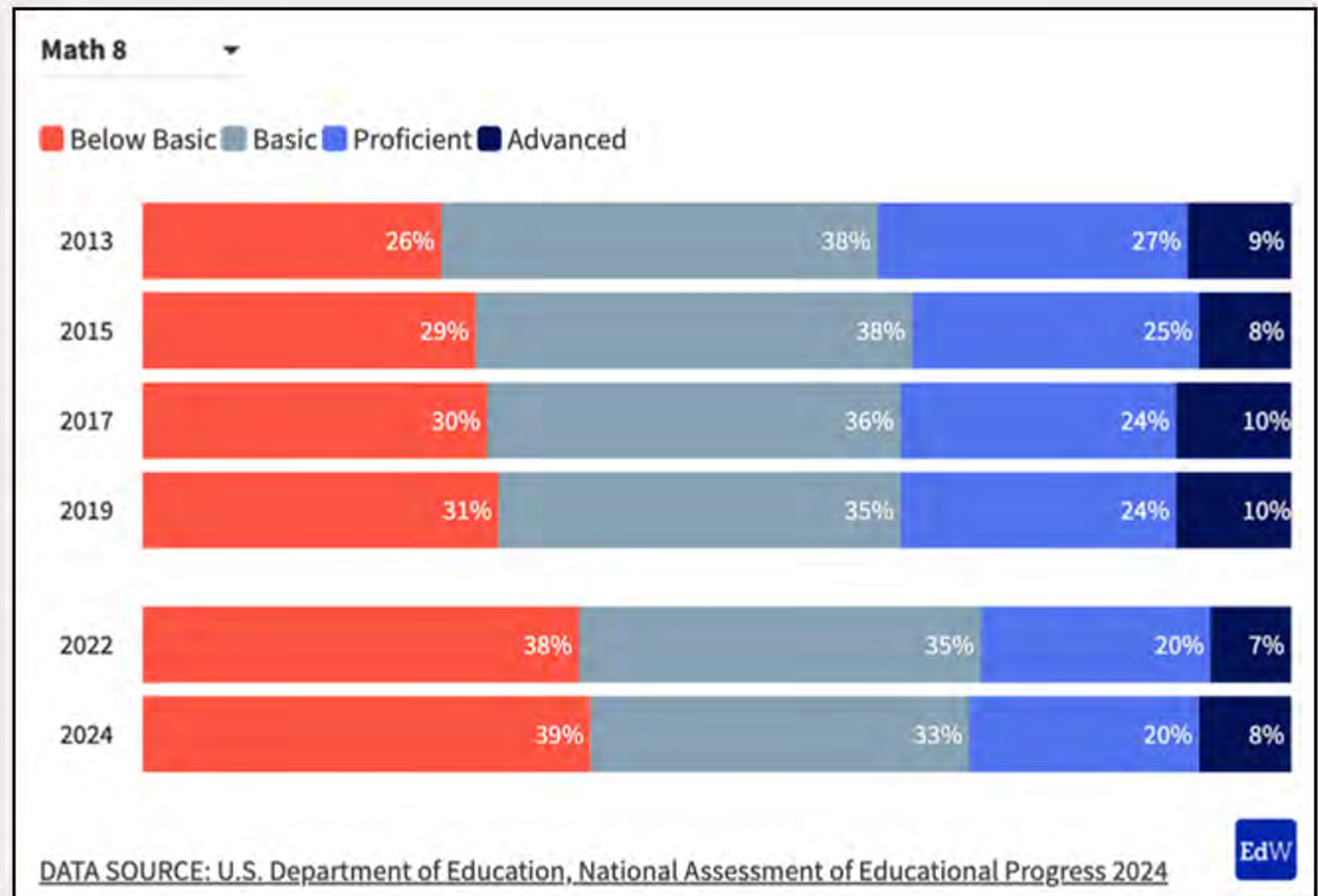
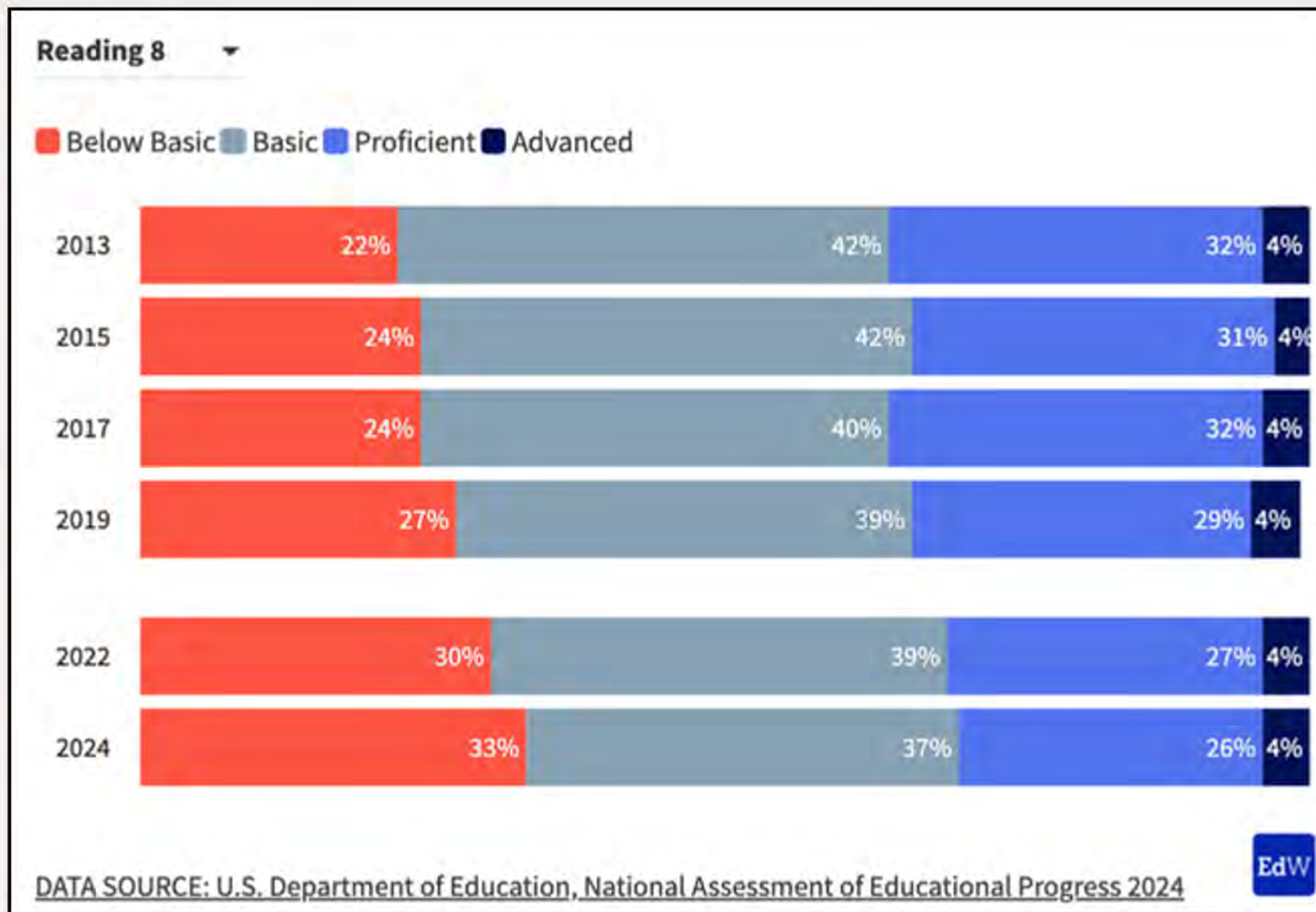
1: The Learning Counsel (2019-2020, 2021, 2022)

2: National Center for Education Statistics (2023).

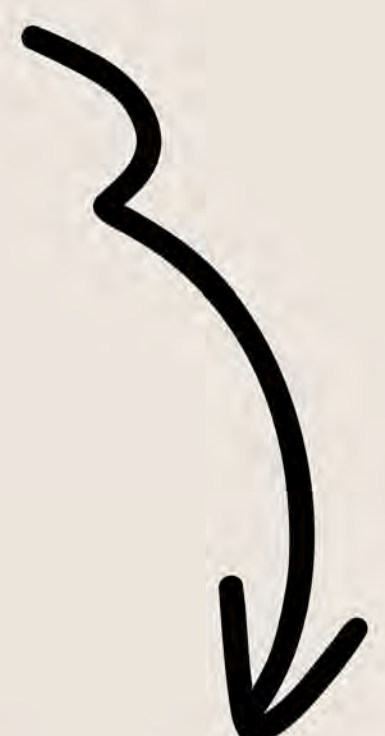
Learning decline had started before the pandemic

Results from the National Assessment of Educational Progress show reading and math scores for struggling 8th graders have steadily declined since 2013

2

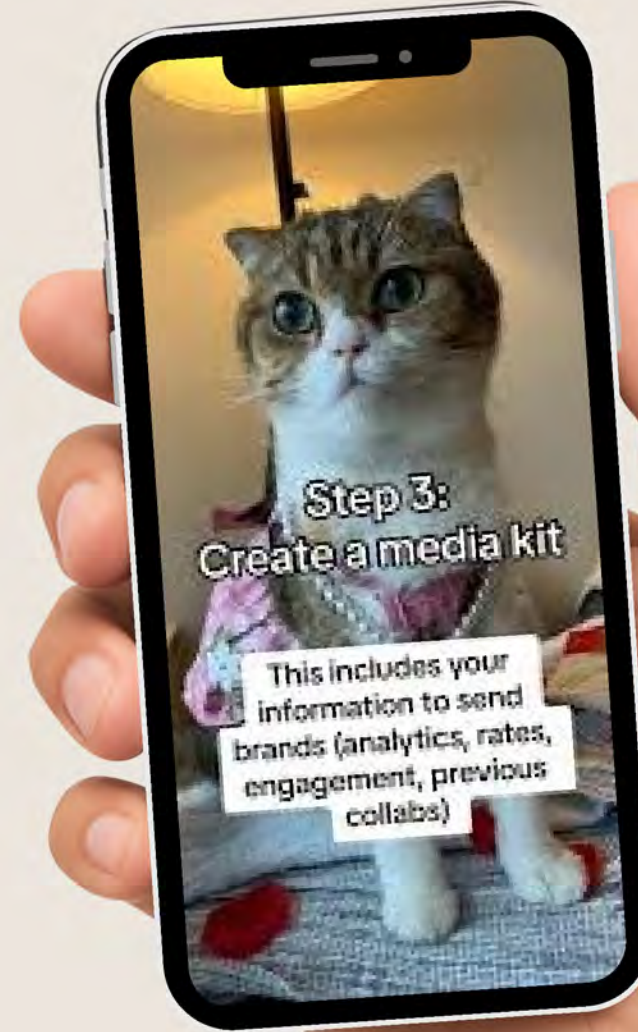


**Why are student performance,
engagement, and attendance**



declining?

Why are student performance, engagement, and attendance



declining?

Why are student performance, engagement, and attendance



declining?

Why are student performance, engagement, and attendance



declining?

Why are student
engagement

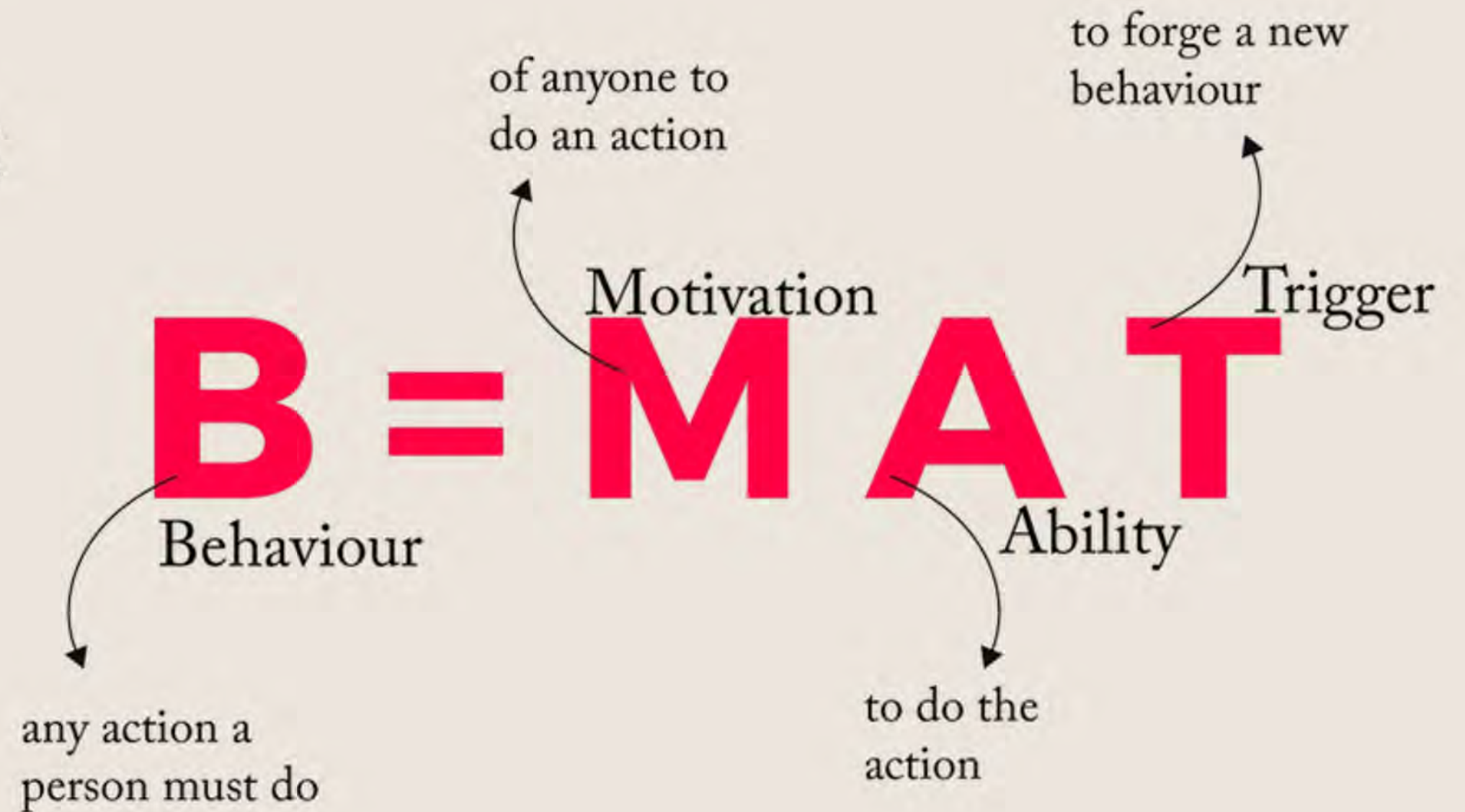


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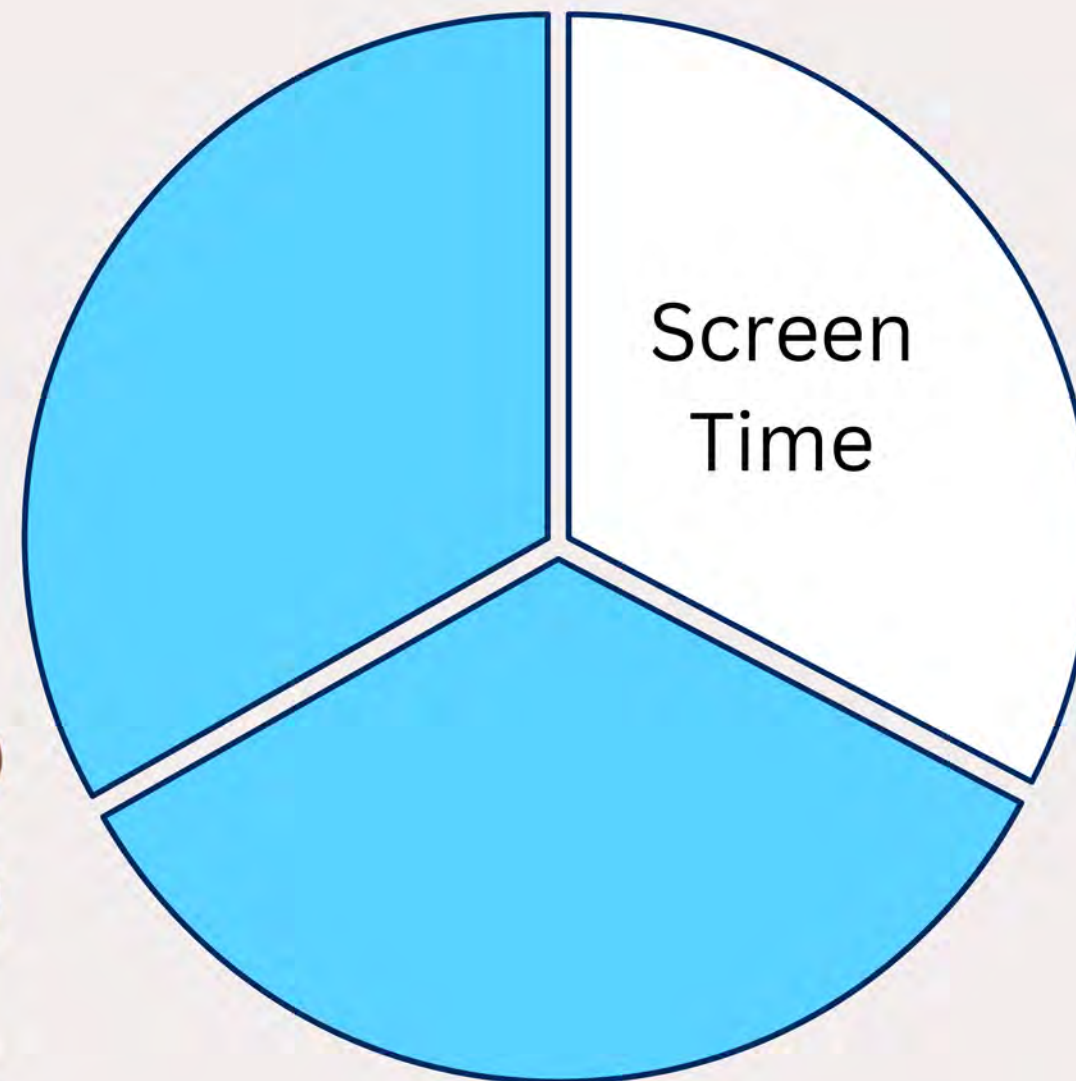
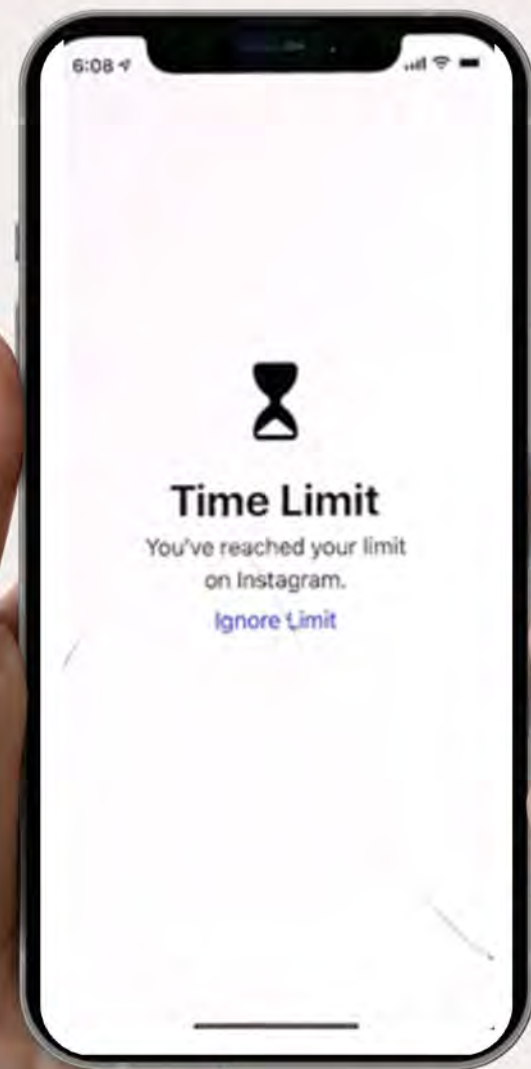
declining?

<https://www.npr.org/2024/10/18/nx-s1-5153741/ai-images-hurricanes-disasters-propaganda>

In 2003, Fogg published
Persuasive Technology:
Using Computers to
Change What We Think
and Do



Screen and social media use is a public health crisis

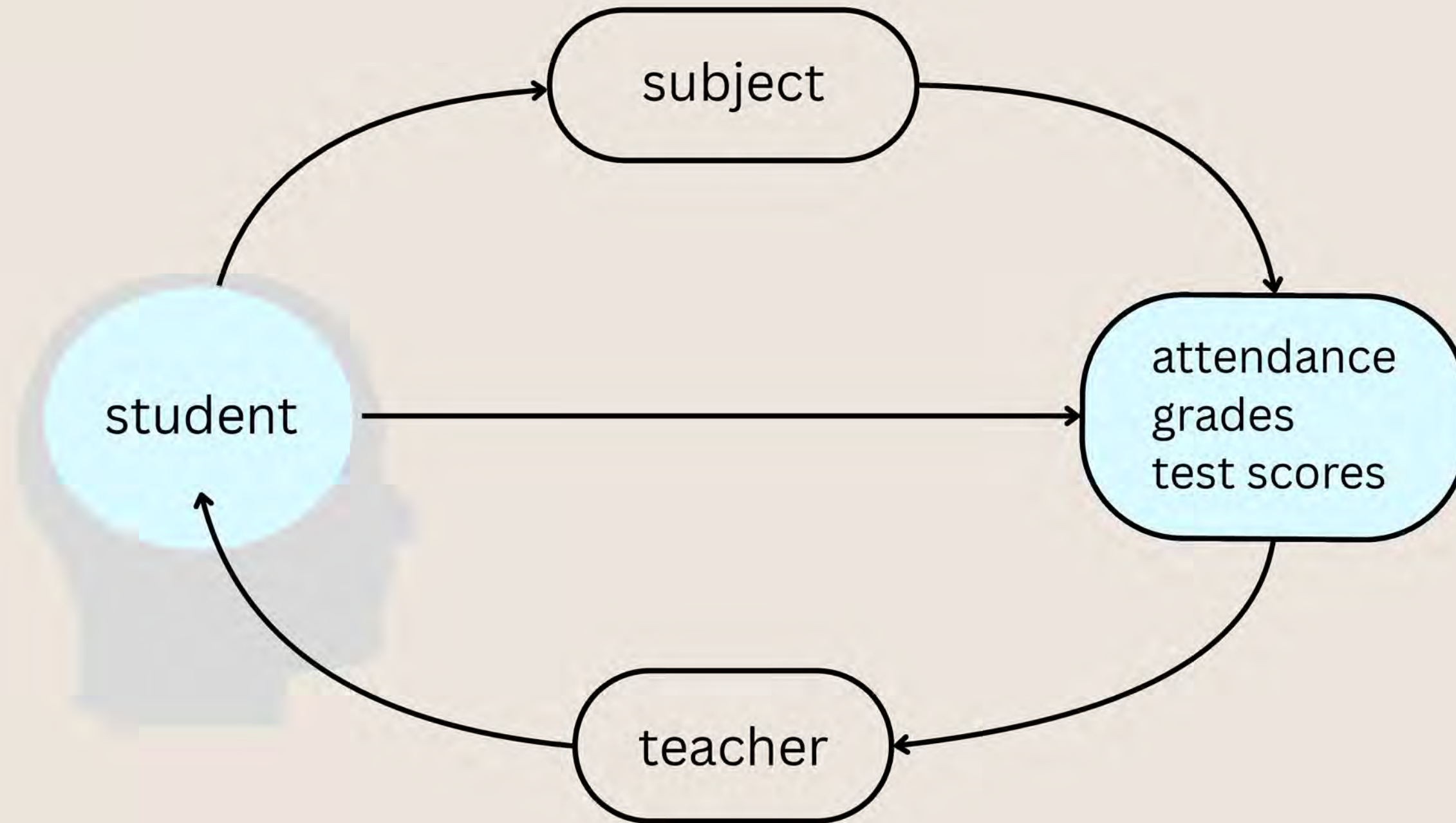


Avg US teens screentime outside of school
50-60 hours per week

Avg American checks their phone nearly
200 times per day



7 hours per day at school on average



8 hours per day

Avg US teen screen time outside
of the school day

{ phones
social media
online games
AI

7 hours per day at school

student

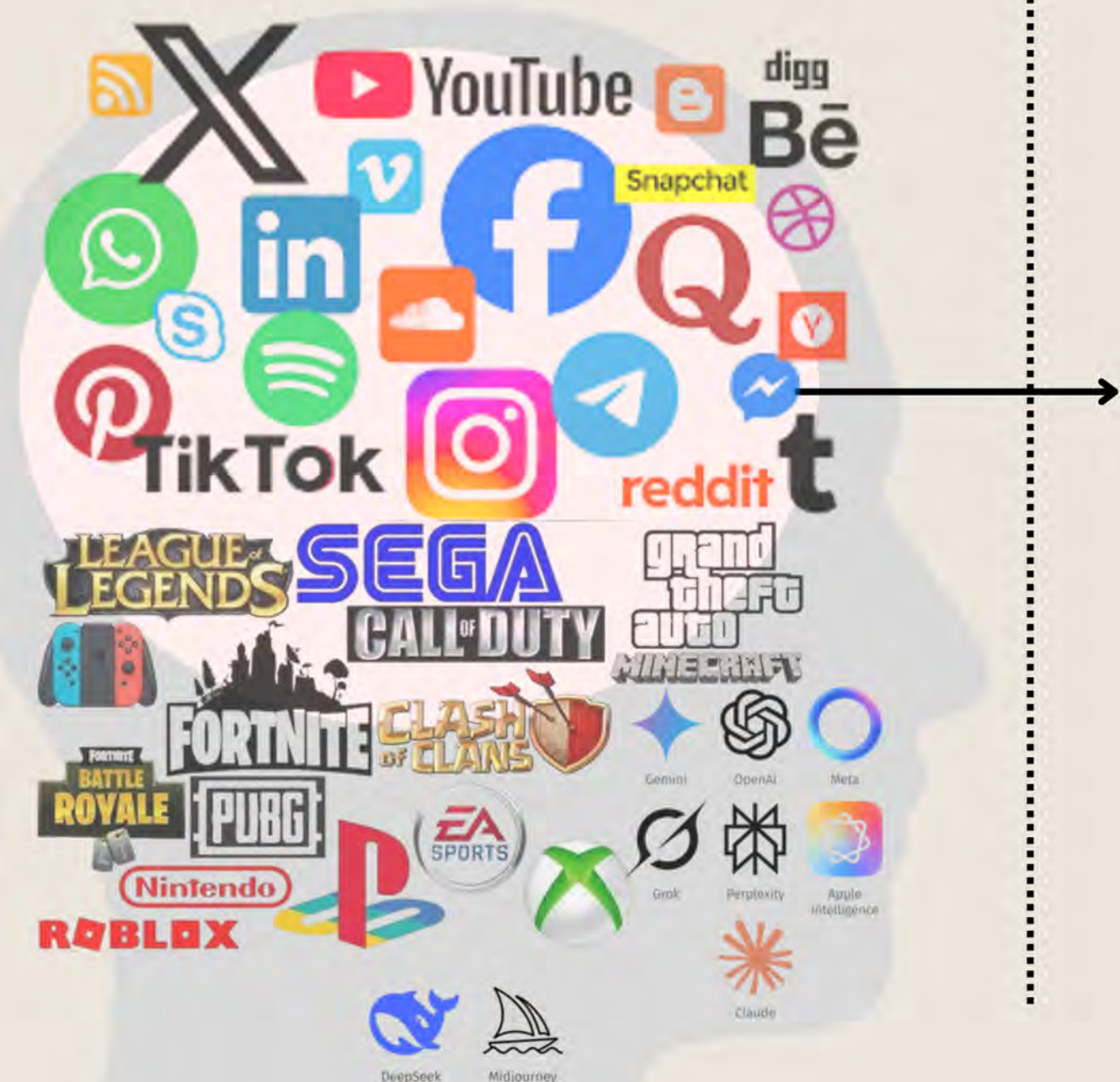
subject

attendance
grades
test scores

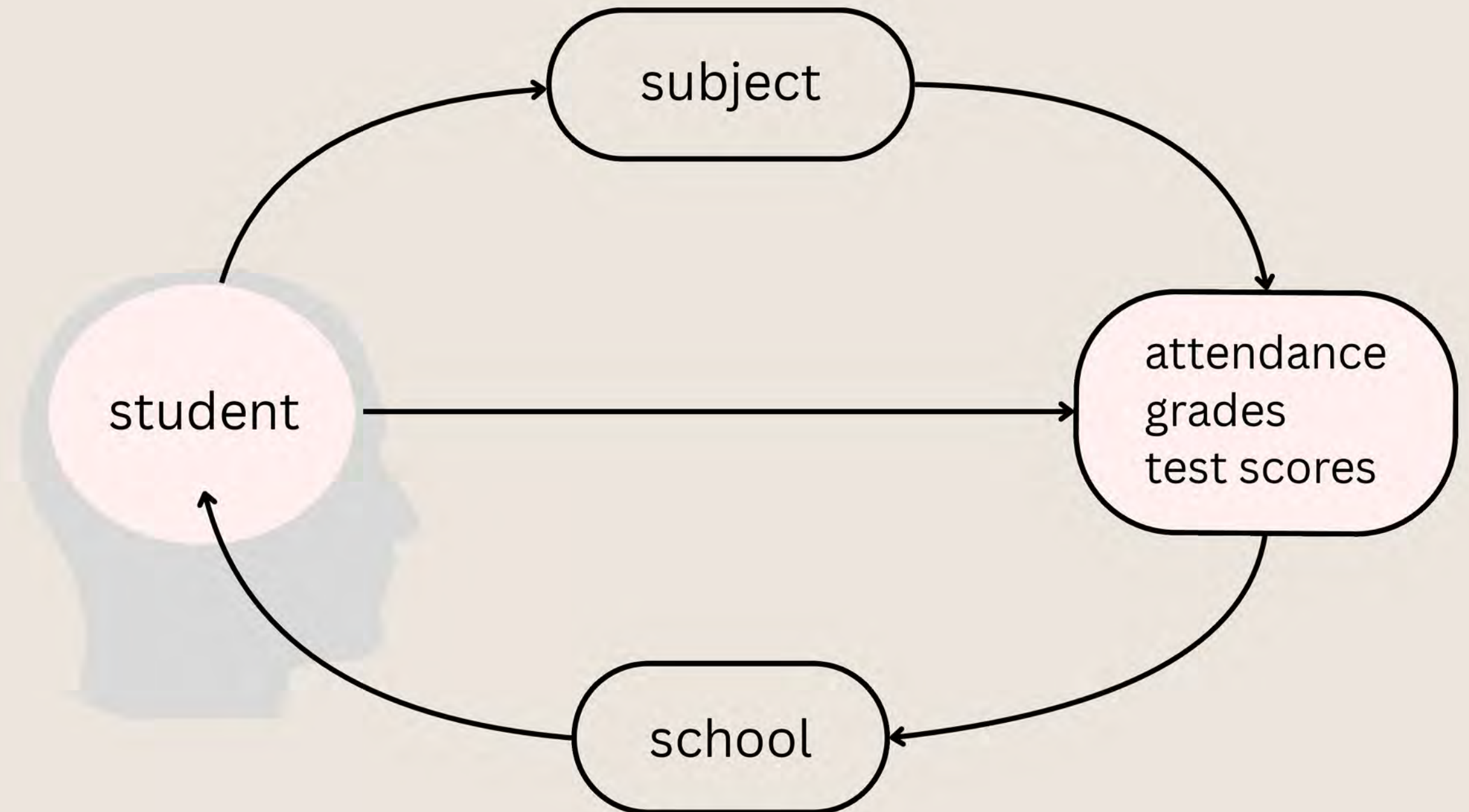
school

8 hours per day

Avg US teen screen time outside of the school day

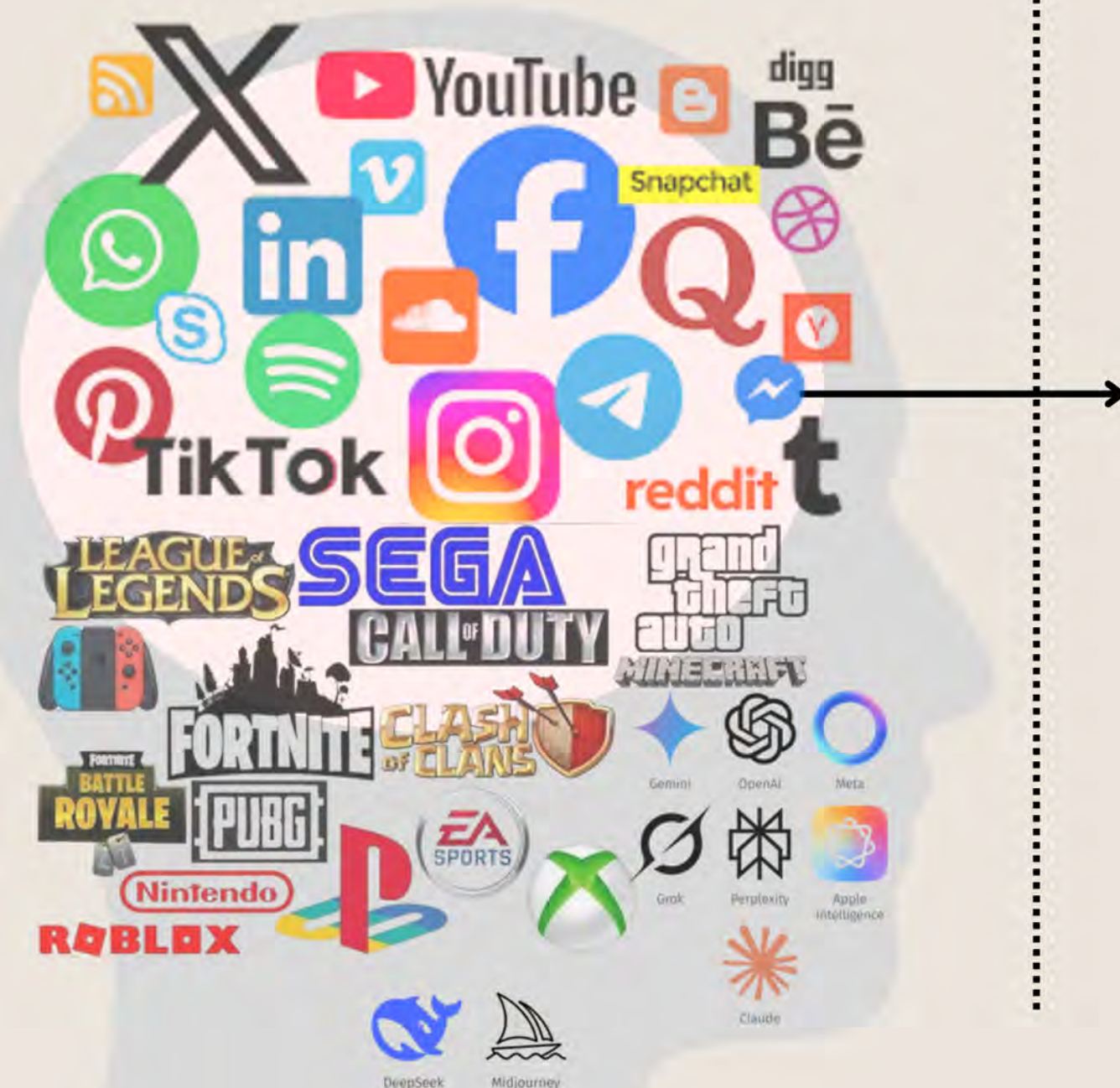


7 hours per day at school

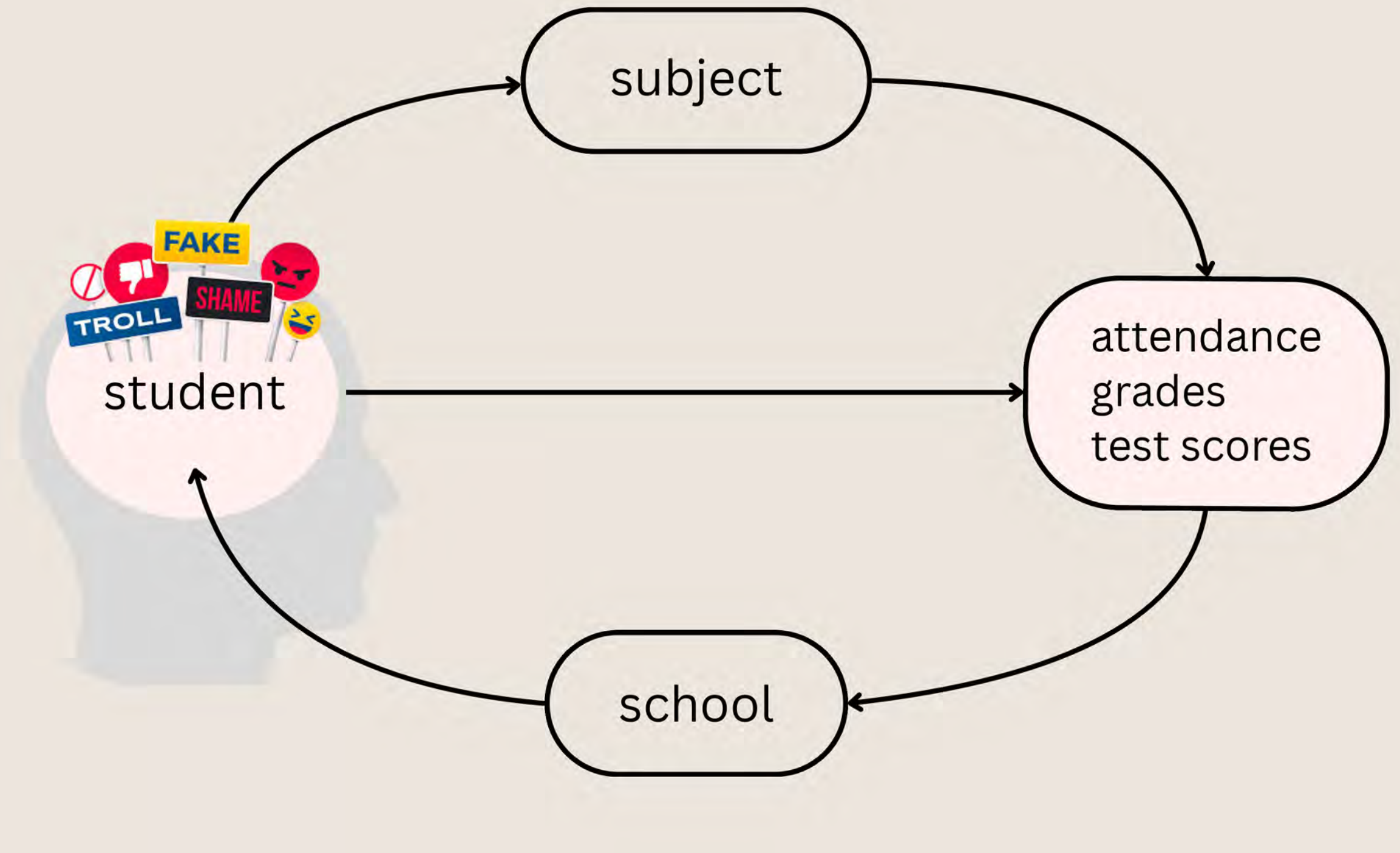


8 hours per day

Avg US teen screen time outside of the school day



7 hours per day at school



Child development

Children start dependent → independent

- Naturally curious
- Learn through trial and error
- Need safe spaces to practice



Children are underdeveloping skills

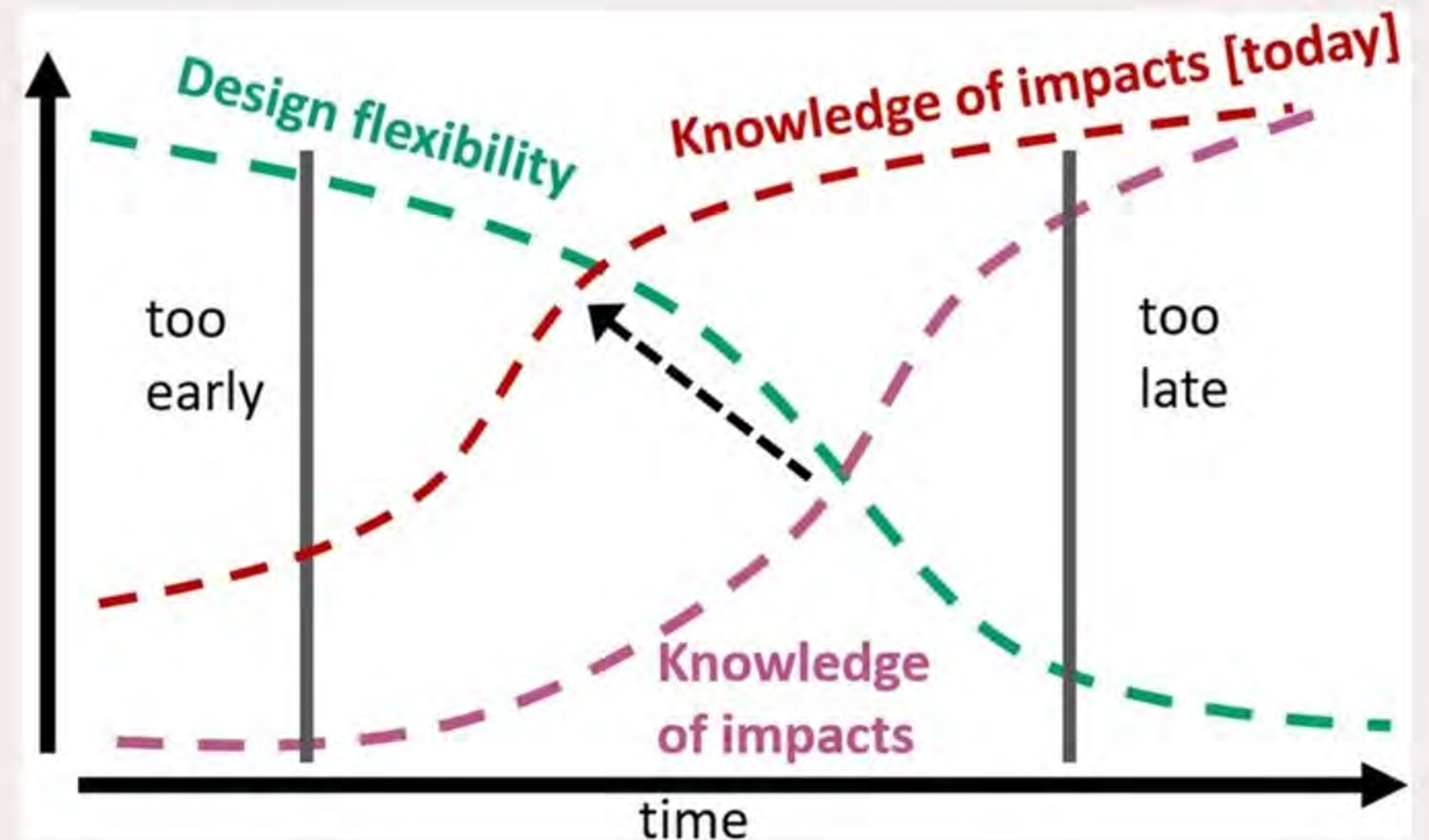
- Fine motor
- Self-regulation
- Attention
- Literacy levels



Lessons from social media platform design

Collingridge and the dilemma of control: Towards responsible and accountable innovation

The idea that there is always a trade-off between knowing the impact of a given technology and the ease of influencing its social, political, and innovation trajectories.

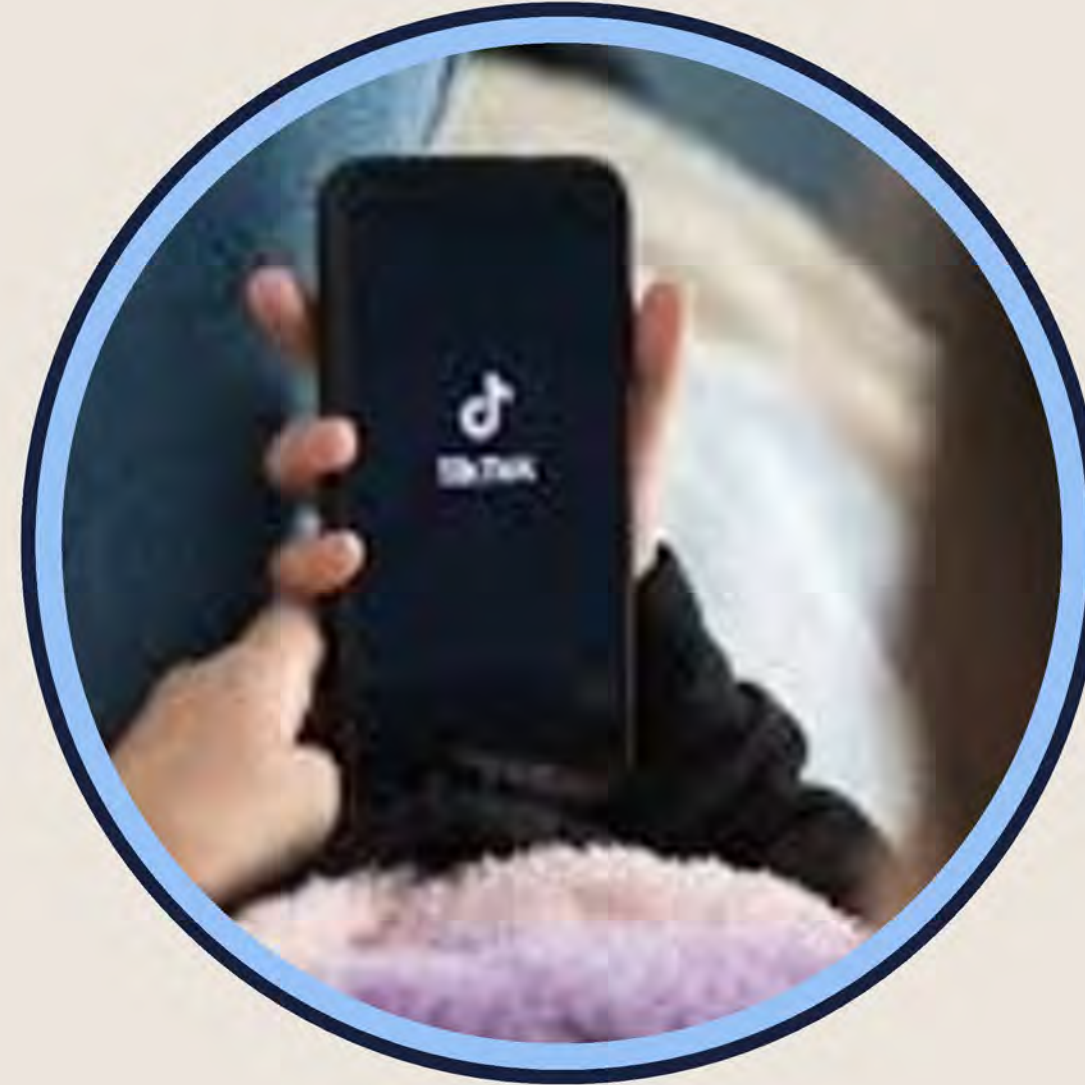


<https://www.sciencedirect.com/science/article/pii/S0048733317301622#sec0040>

<https://www.edge.org/response-detail/10898>

Teens, Social Media and AI Chatbots

Oct 2025



**Roughly 1 in 5 U.S. teens
say they are on TikTok and
YouTube almost
constantly.**



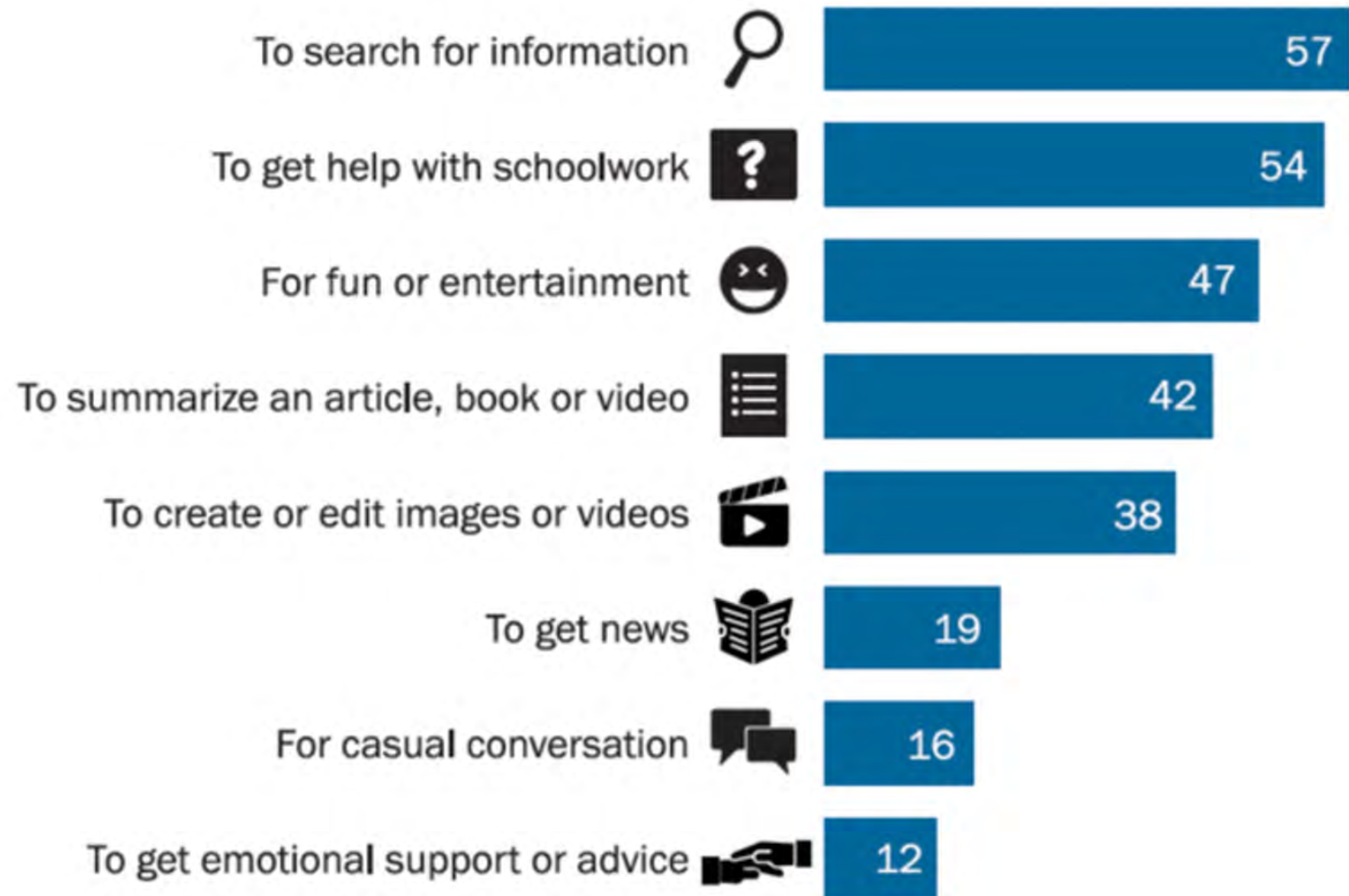
**At the same time, 64% of
teens say they use
chatbots, including about 3
in 10 who do so daily.**

<https://www.pewresearch.org/internet/2025/12/09/teens-social-media-and-ai-chatbots-2025/>

How teens use AI

More than half of teens say they have used AI chatbots for finding information, doing schoolwork

% of U.S. teens ages 13 to 17 who say they have ever used AI chatbots ...



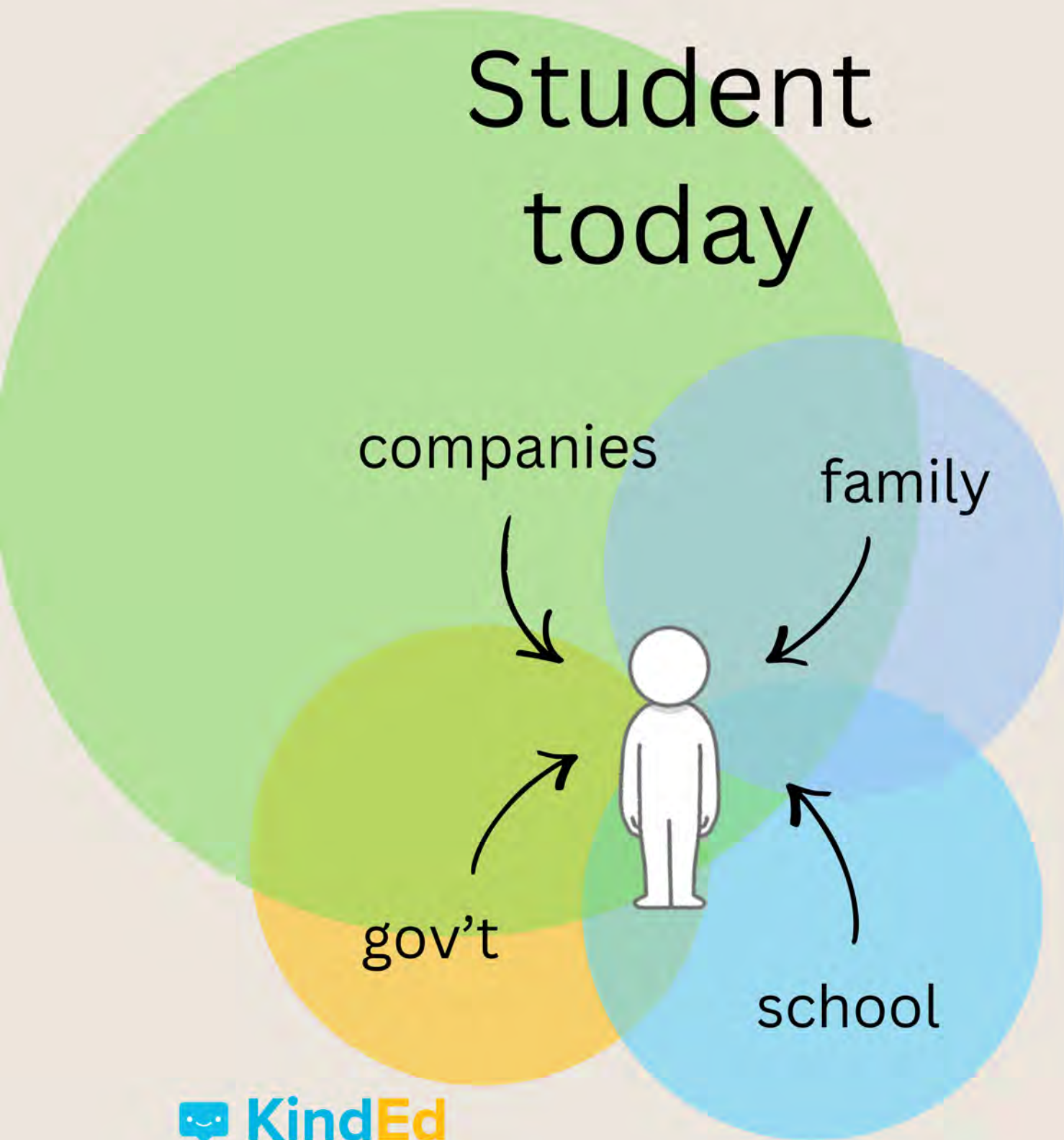
Note: Those who did not answer are not shown.

Source: Survey conducted Sept. 25-Oct. 9, 2025.

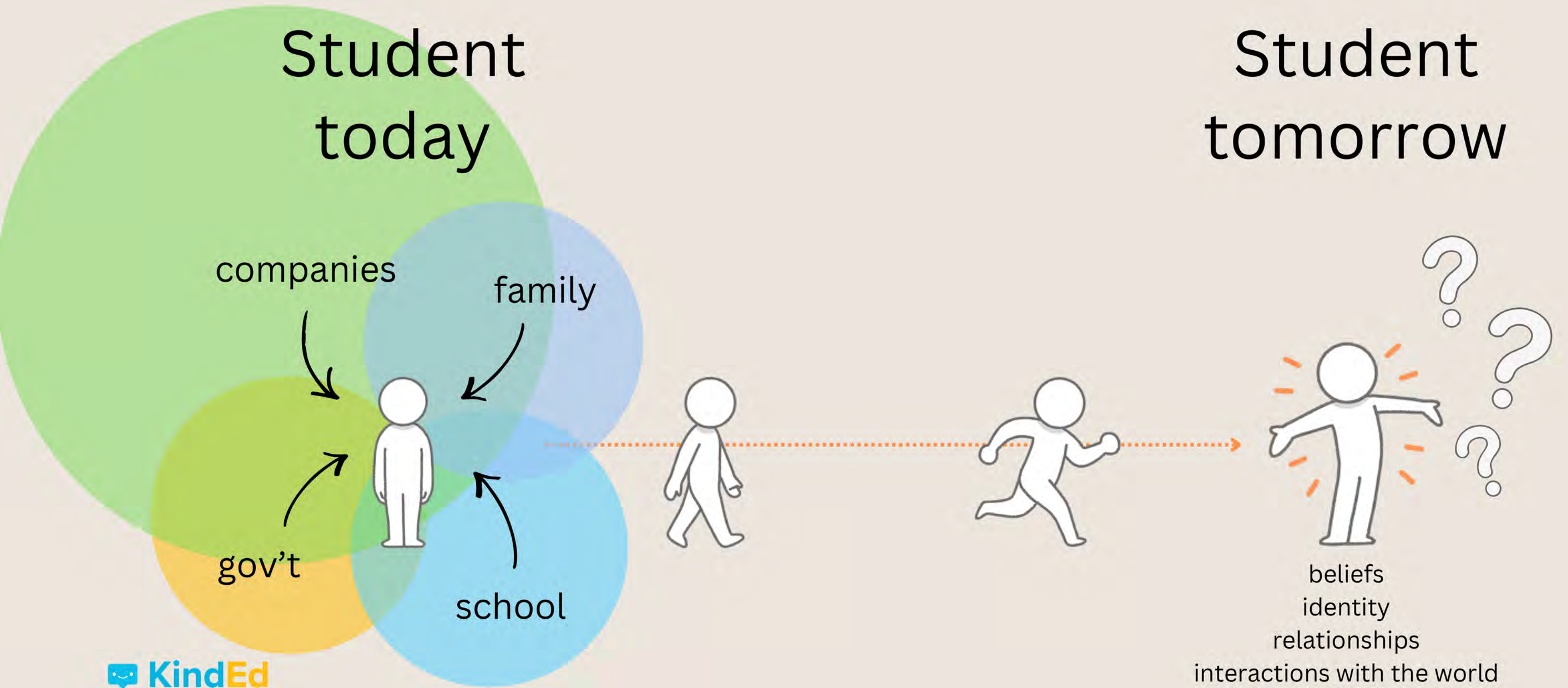
"How Teens Use and View AI"

PEW RESEARCH CENTER

Spheres of influence



Spheres of influence



AI and memory

“Neurons that fire together wire together”

- How is memory diminished by AI?
- How has it already been diminished by edtech?



Tech design increases cognitive offloading

COGNITIVE OFFLOADING

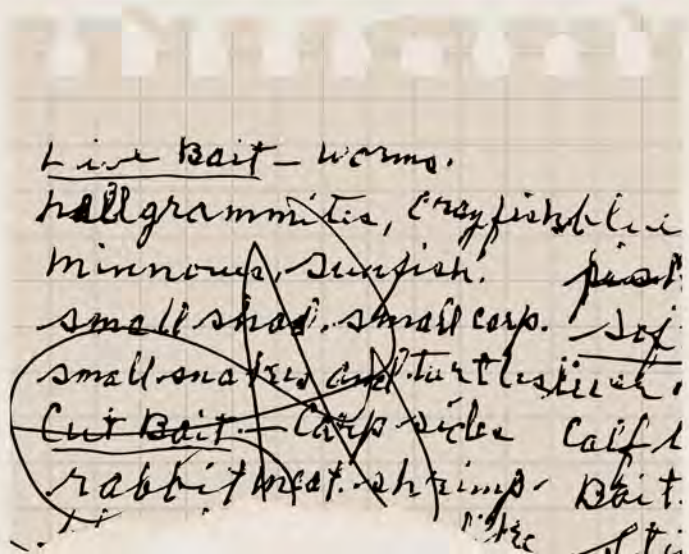
The act of using physical actions to reduce mental effort required for a task, freeing up your mind for other things

USING DIGITAL
TOOLS

STORING
CONTACTS

USING A
CALCULATOR

WRITING A
TO-DO LIST



Tech design increases cognitive offloading

COGNITIVE OFFLOADING

The act of using physical actions to reduce mental effort required for a task, freeing up your mind for other things

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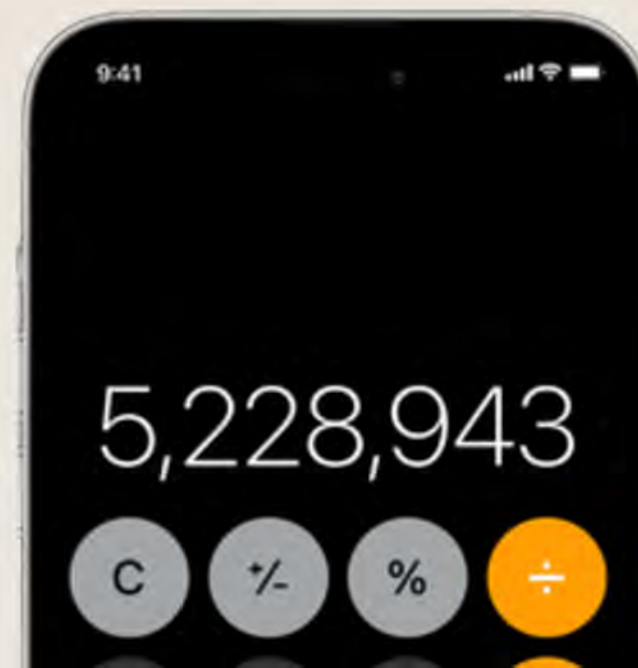
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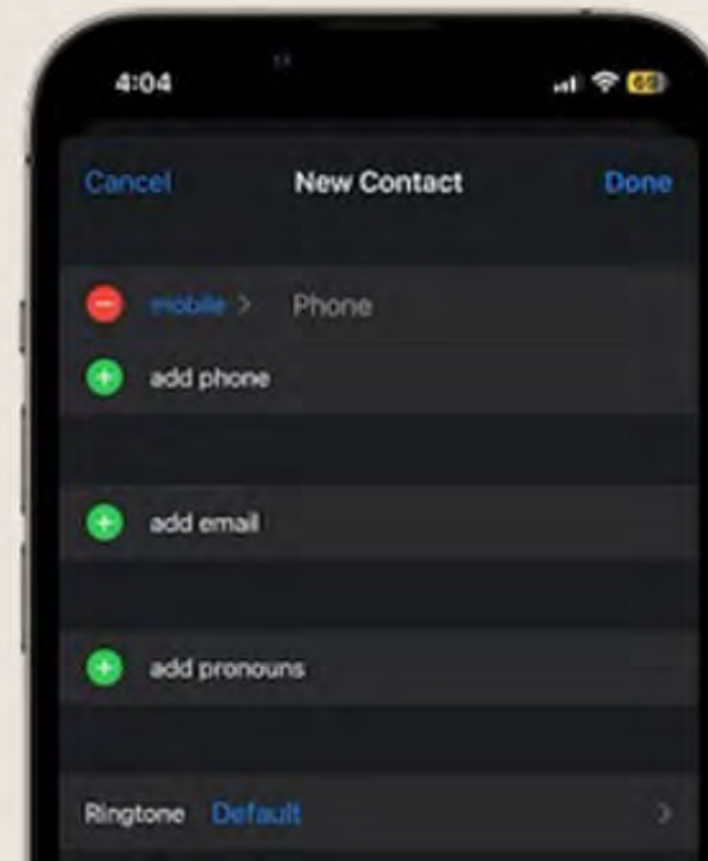
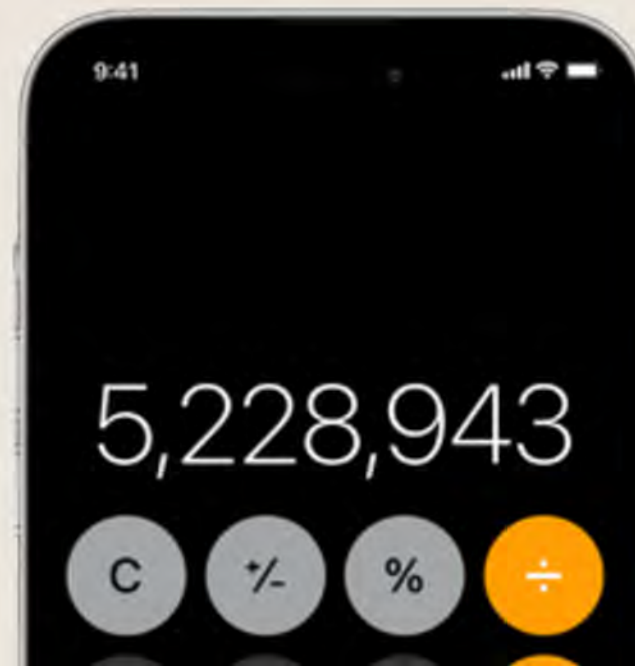
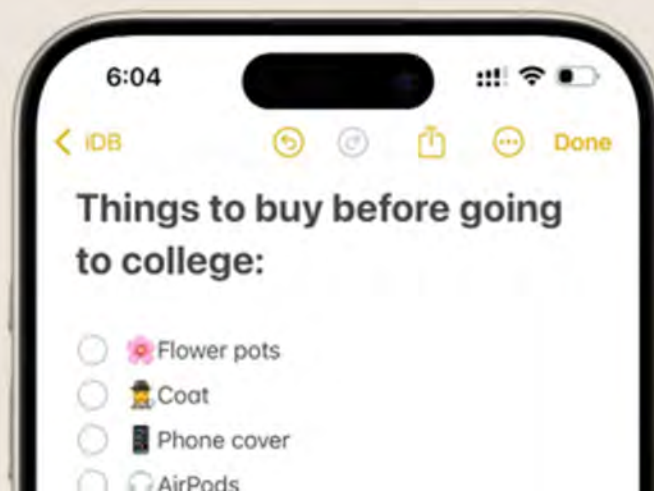
The act of using physical actions to reduce mental effort required for a task, freeing up your mind for other things

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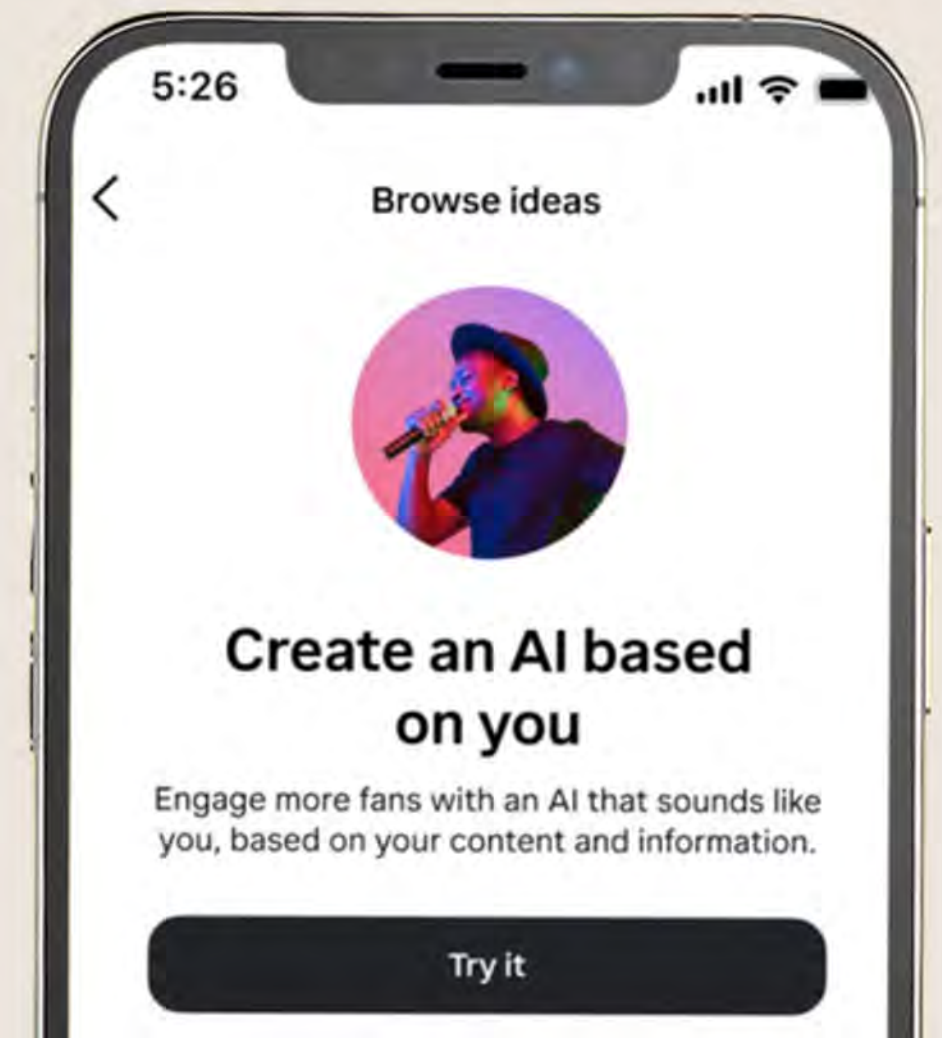
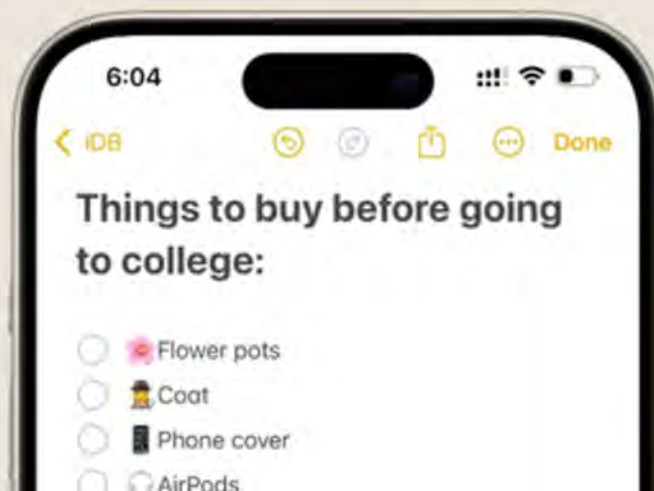
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TO-DO LIST



Chat are we cooked?

Increasingly reliance on AI tools may atrophy internal cognitive abilities, leading to diminished long-term memory and cognitive health



ChatGPT 5 ▾

↑ Share

What are the risks of AI use and cognitive offloading?

Here are key risks of AI use and cognitive offloading:

- **Reduced critical thinking** – relying on AI limits independent analysis and reasoning.
- **Memory decline** – outsourcing recall weakens information retention.
- **Diminished problem-solving** – overreliance prevents the development of complex thinking skills.
- **Cognitive laziness** – convenience discourages mental effort and persistence.
- **Increased trust and dependence** – users accept AI outputs without questioning accuracy or bias.
- **Erosion of cognitive resilience** – less practice in managing uncertainty or ambiguity weakens mental adaptability.



1: Michael Gerlich (2024). AI Tools in Society: Impacts on Cognitive Offloading and the Future of Critical Thinking.

Engagement and use shapes identity

- Screen use 
- Social comparison 
- In-person connection 
- Sleep 
- Tolerance 

AI readiness vs use

- What is AI literacy
- Benefits and consequences
- Guardrails
- Capacity

Preinvestment in capacity requires:

- Backwards planning
- Outcomes that withstand the test of time

Look at AI through a developmental lens and look for alignment

- What builds trust?
- What builds growth?
- What builds resilience?
- What builds memory?
- What builds knowledge?
- What builds community?
- What builds empathy?

Engagement-driven design persists

- Sycophants
- Emotionally invested
- Creates illusion of certainty

<https://arxiv.org/abs/2510.01395>

 Cornell University

We gratefully acknowledge support from
member institutions

arXiv > cs > arXiv:2510.01395

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Computer Science > Computers and Society

[Submitted on 1 Oct 2025]

Sycophantic AI Decreases Prosocial Intentions and Promotes Dependence

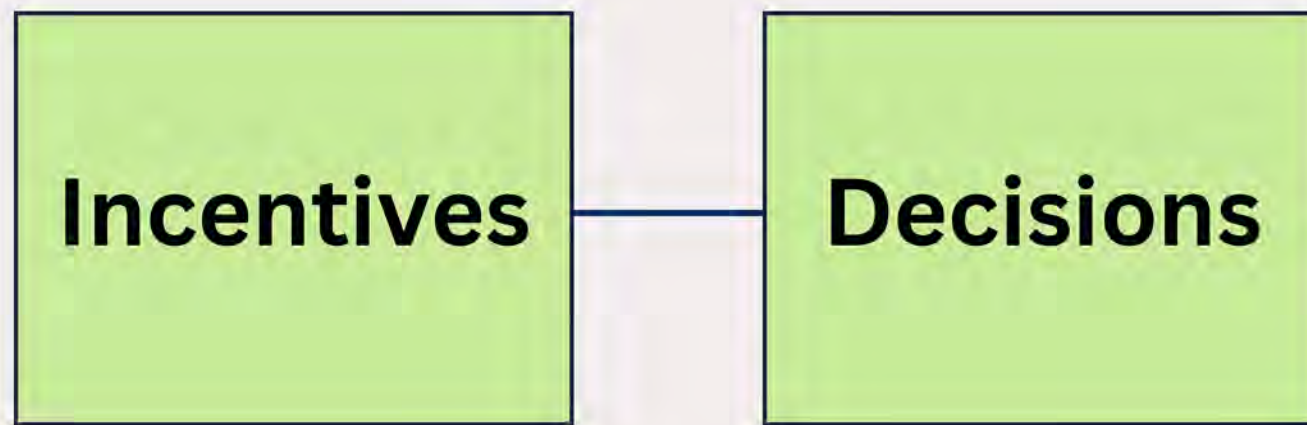
Myra Cheng, Cinoo Lee, Pranav Khadpe, Sunny Yu, Dyllan Han, Dan Jurafsky

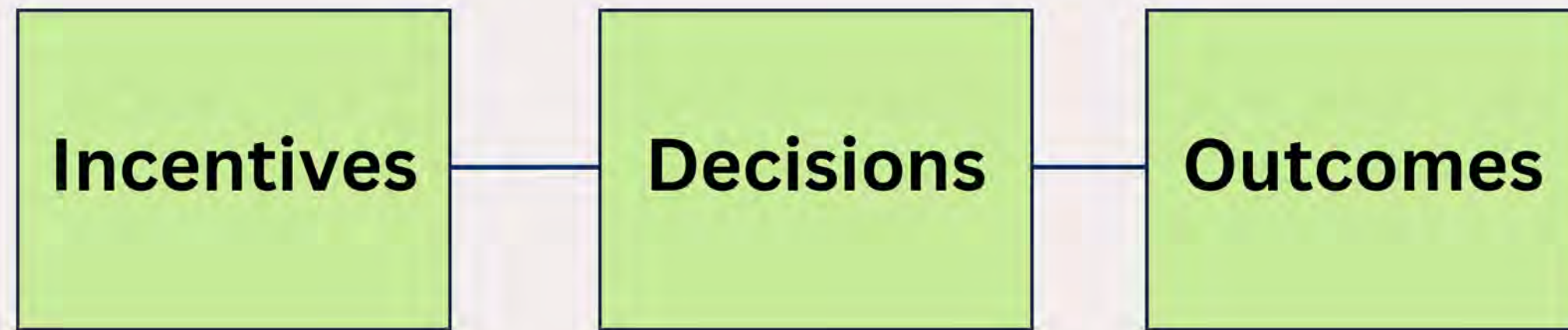
Both the general public and academic communities have raised concerns about sycophancy, the phenomenon of artificial intelligence (AI) excessively agreeing with or flattering users. Yet, beyond isolated media reports of severe consequences, like reinforcing delusions, little is known about the extent of sycophancy or how it affects people who use AI. Here we show the pervasiveness and harmful impacts of sycophancy when people seek advice from AI. First, across 11 state-of-the-art AI models, we find that models are highly sycophantic: they affirm users' actions 50% more than humans do, and they do so even in cases where user queries mention manipulation, deception, or other relational harms. Second, in two preregistered experiments (N = 1604), including a live-interaction study where participants discuss a real interpersonal conflict from their life, we find that interaction with sycophantic AI models significantly reduced participants' willingness to take actions to repair interpersonal conflict, while increasing their conviction of being in the right. However, participants rated sycophantic responses as higher quality, trusted the sycophantic AI model more, and were more willing to use it again. This suggests that people are drawn to AI that unquestioningly validate, even as that validation risks eroding their judgment and reducing their inclination toward prosocial behavior. These preferences create perverse incentives both for people to increasingly rely on sycophantic AI models and for AI model training to favor sycophancy. Our findings highlight the necessity of explicitly addressing this incentive structure to mitigate the widespread risks of AI sycophancy.

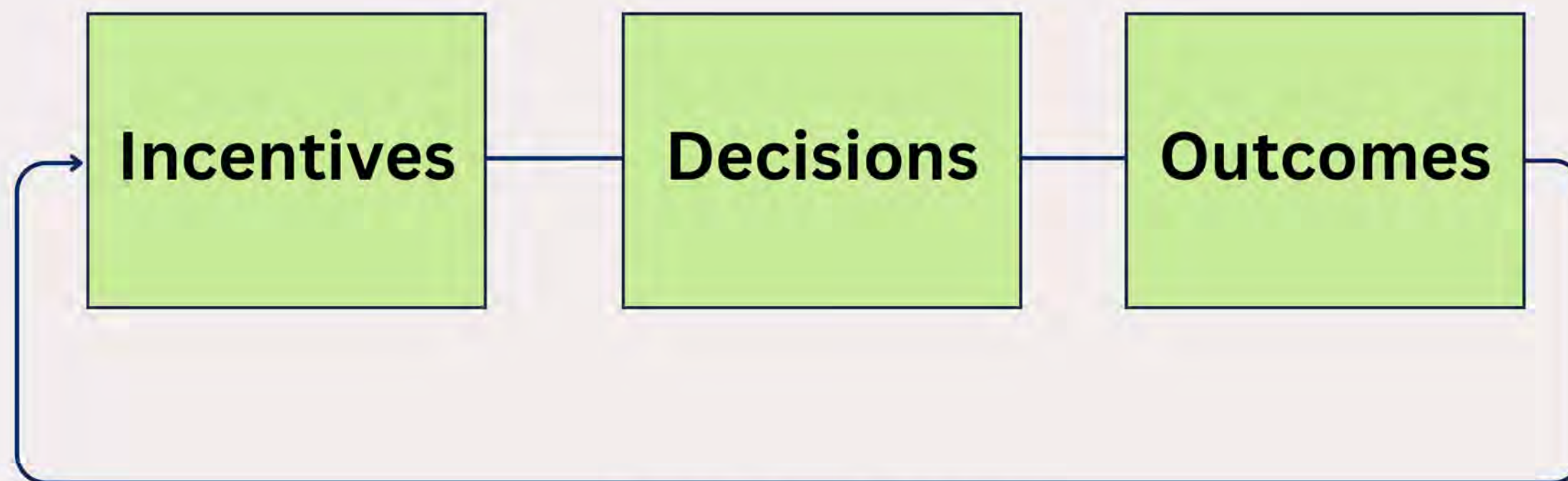
Subjects: **Computers and Society (cs.CY)**; Artificial Intelligence (cs.AI)

Cite as: **arXiv:2510.01395 [cs.CY]**
(or **arXiv:2510.01395v1 [cs.CY]** for this version)

Incentives

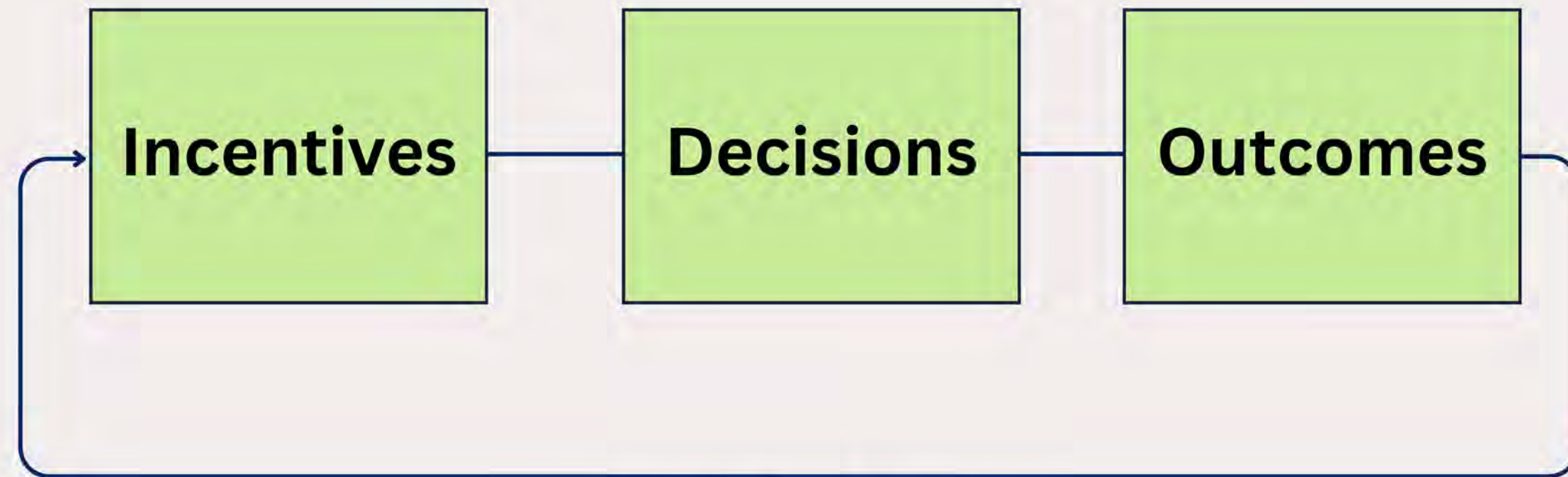






Feedback Loop

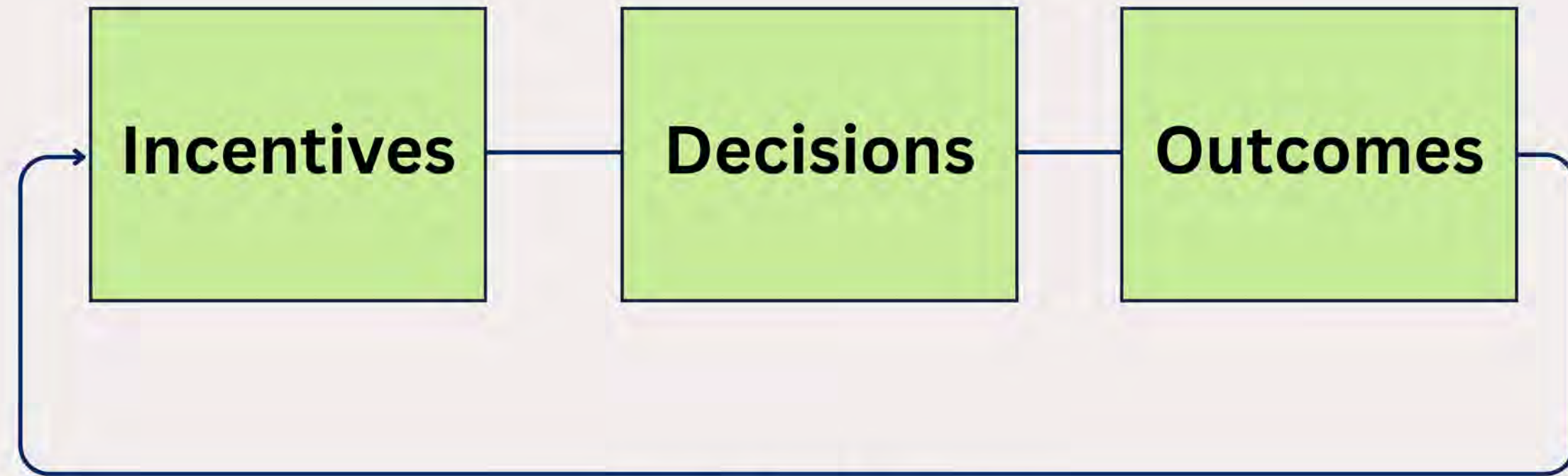
Companies



Feedback Loop

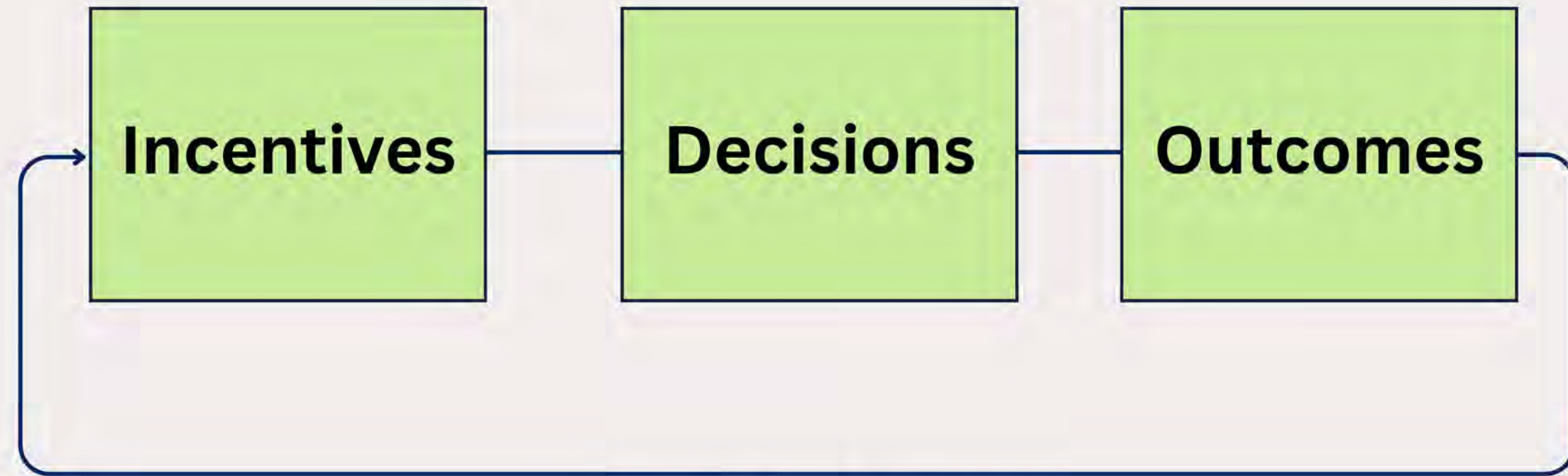
Companies

School Leaders



Feedback Loop

Companies
School Leaders
Students



Feedback Loop

Incentive alignments

- Stakeholders
 - Companies
 - Schools
 - Students
 - Parents



Efficiency vs human development

- Time
- Attention



AI and social trust

- Algorithm-driven divisions
- Information online vs AI-generated
- Different AI tools and sources

Examples of social media spreading process (with passive regulation)

Figure 2



An example network N .

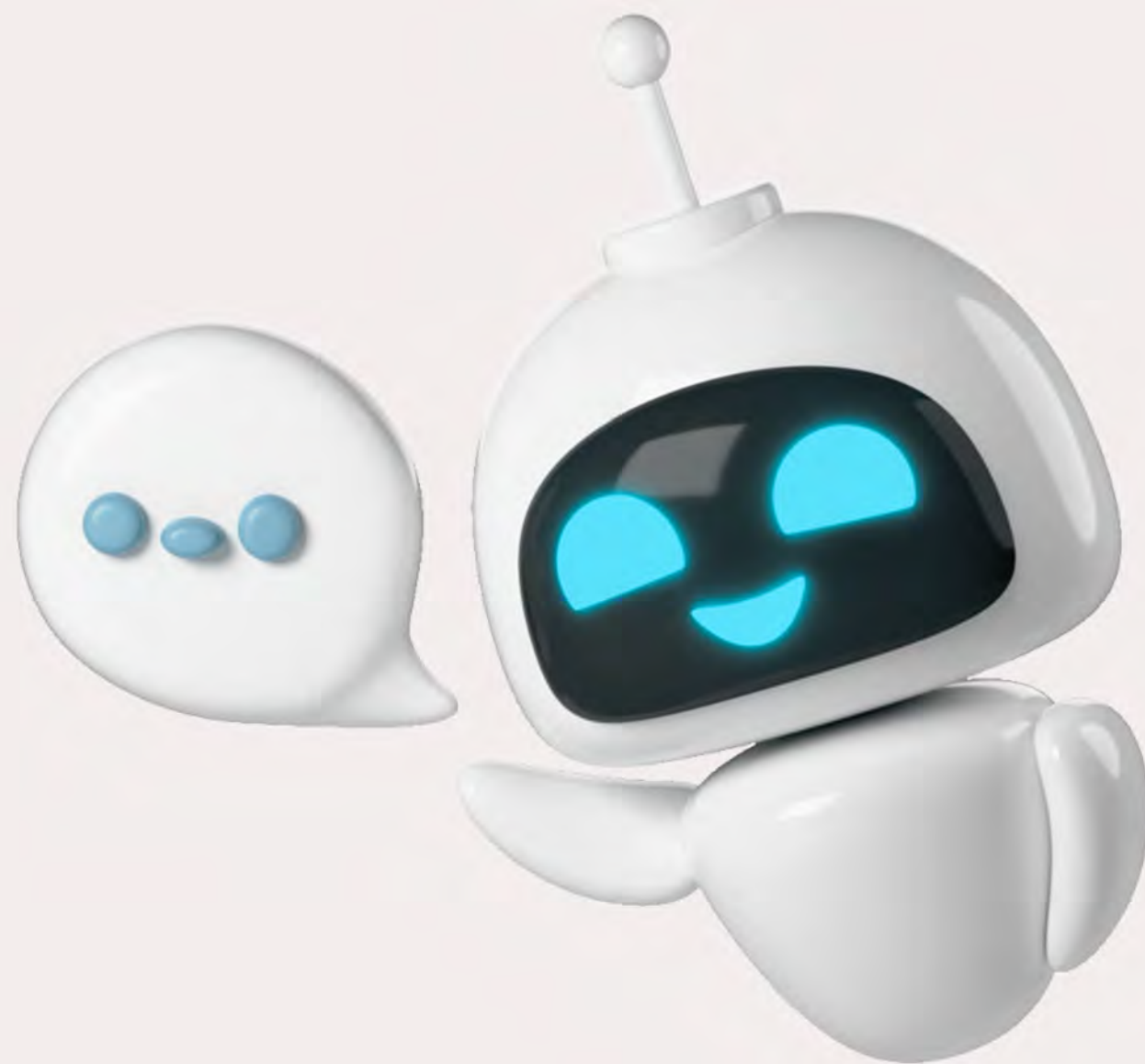
[Full size image >](#)



What filter bubbles are you in?



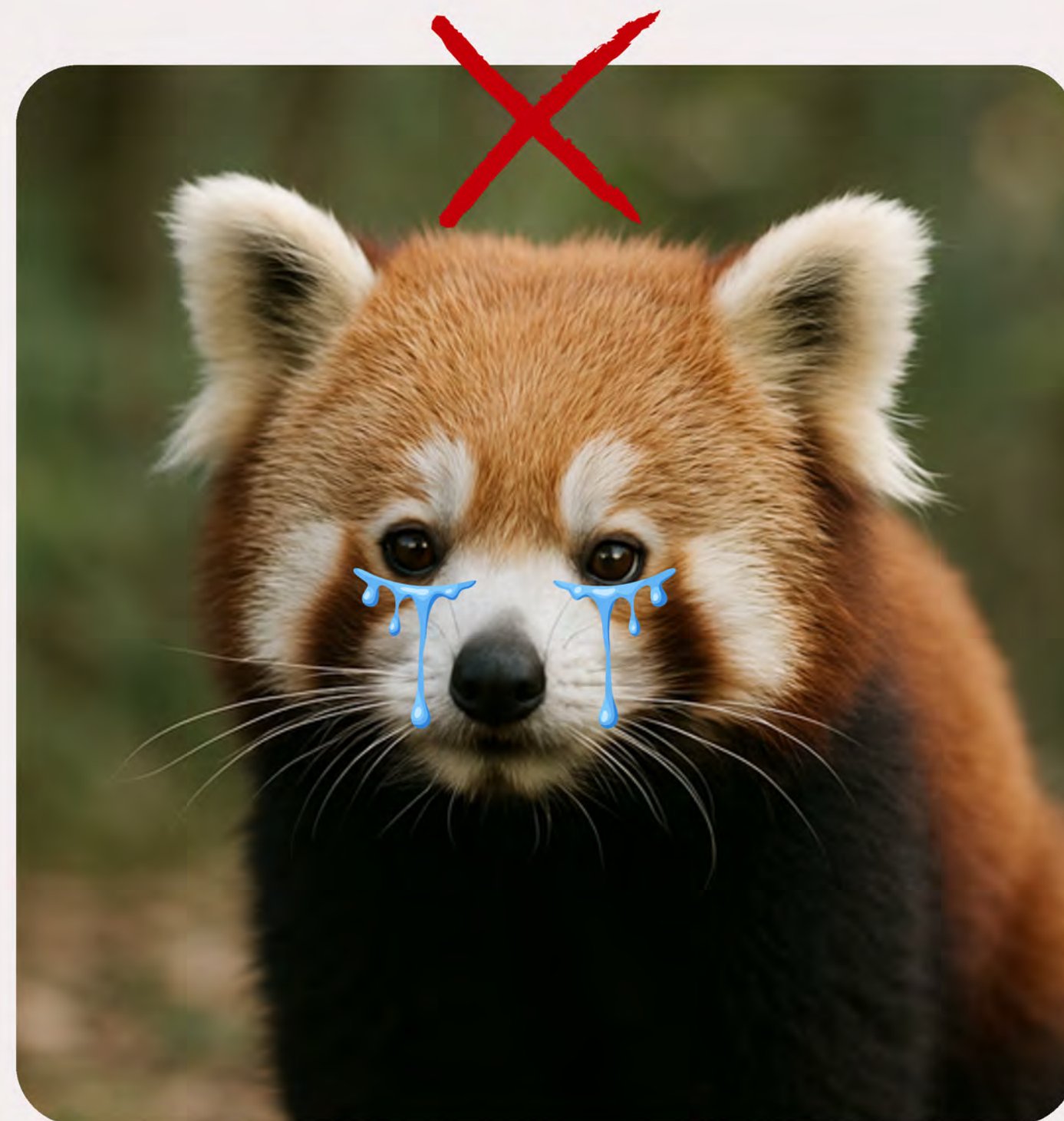
What is real? Fake? AI?



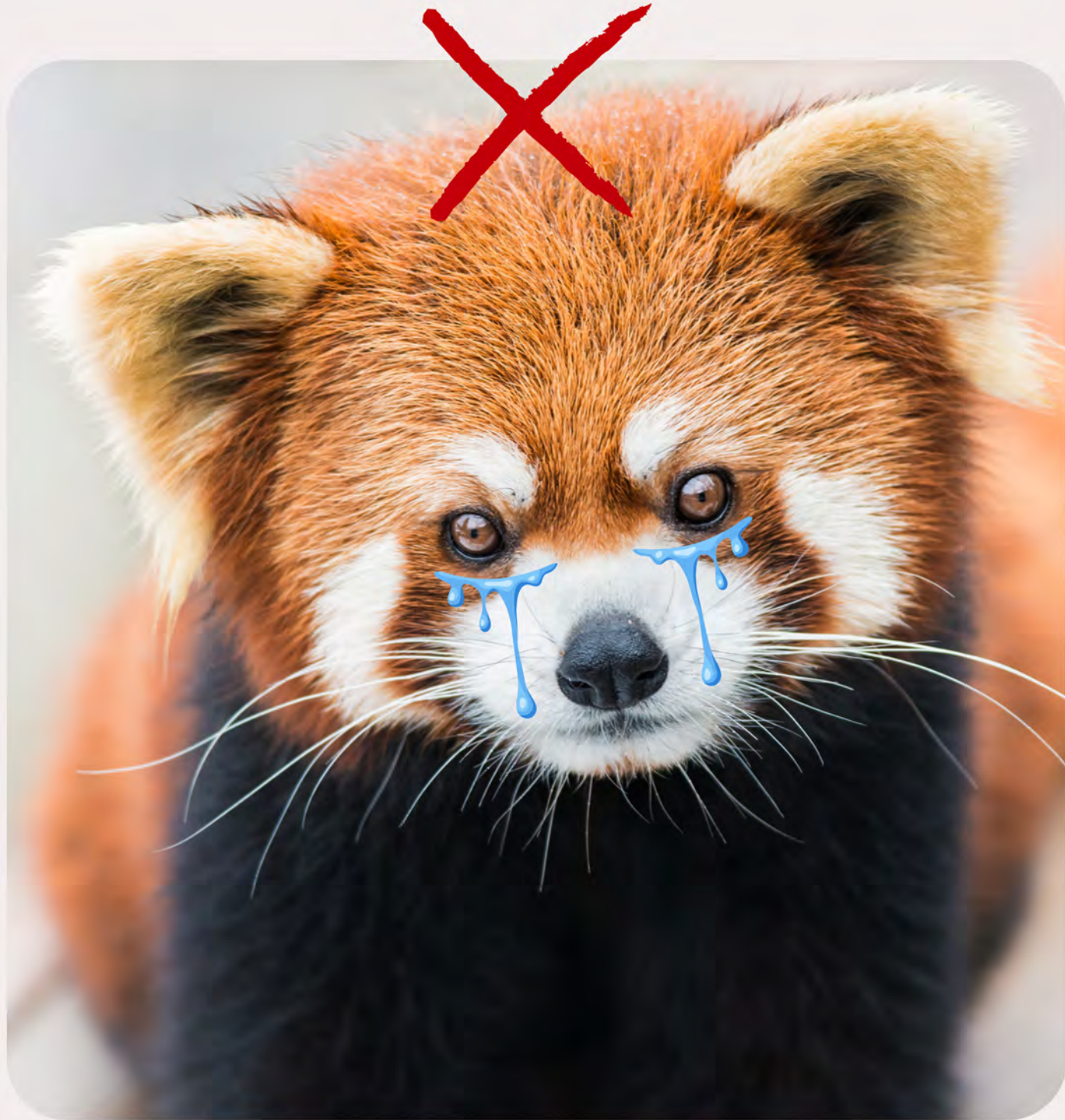
Which one is real vs AI generated



Correct answer: Left



Just kidding, the one on the right obv



Plot twist: They're both AI-generated

FAKE



FAKE



I'm for real the real deal, really.



Practical moves

- Define AI together
- Revisit regularly
- Start with skepticism
- Avoid punitive bans
- Normalize uncertainty and error
- Incentivize productive cognitive struggle
 - Creation
 - Curiosity
 - Connection through in-person collaboration

**The internet once gave
children access to the world.**

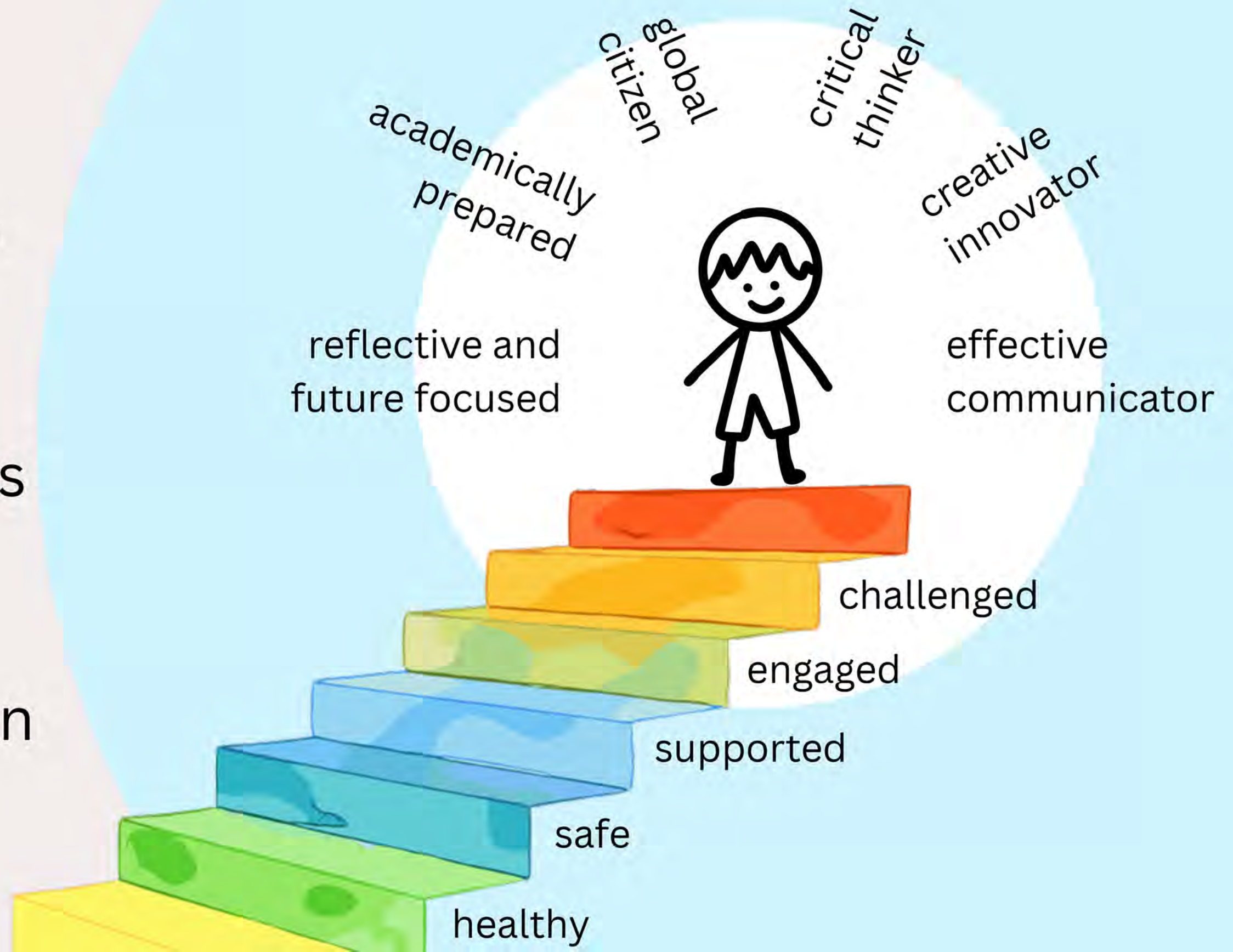


**The internet once gave
children access to the world.
Now the world has access to
our children.**

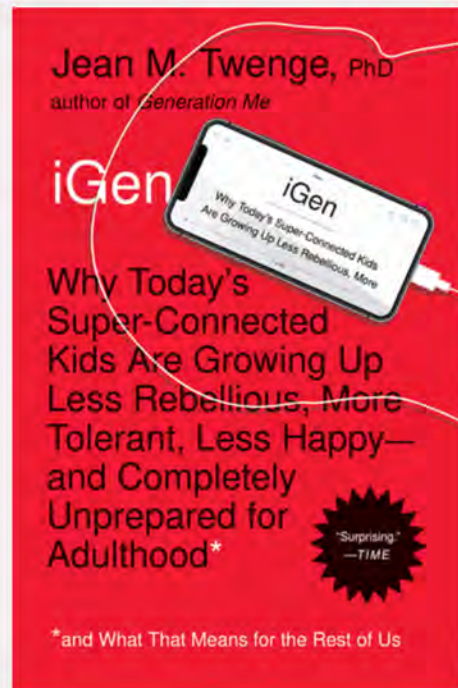


Reminders

- AI does not know a child's future
- AI does not know who they will become
- Start with what you want for your students and decide together
- Cultivate capacity before implementation



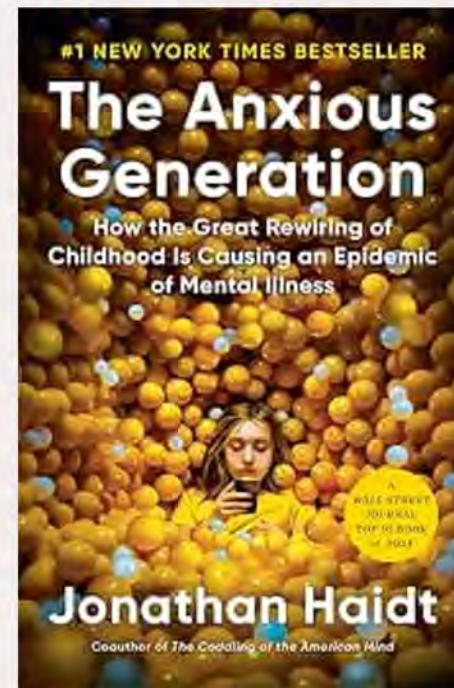
Recommended reading



iGen

**Jean Twenge
(2017)**

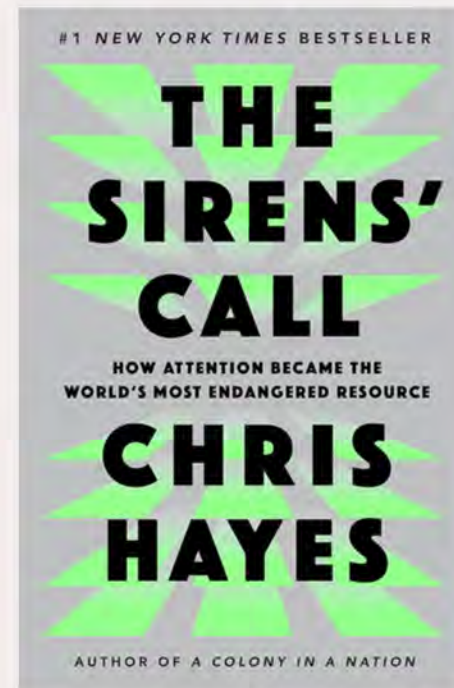
Screens, Screens,
Screens



**The Anxious
Generation**

**Jonathan Haid
(2024)**

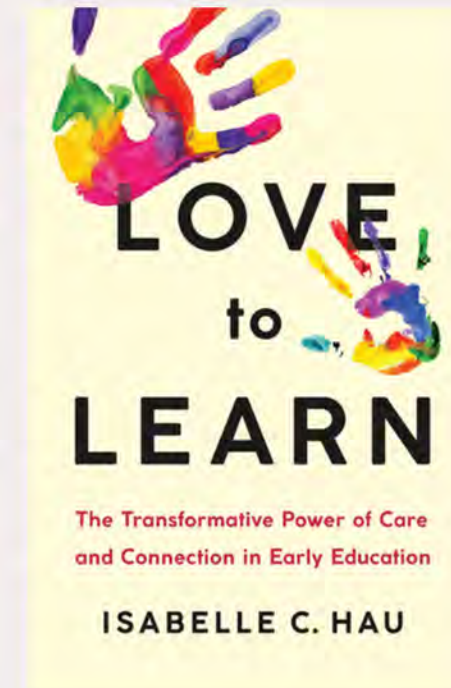
Touch grass



The Sirens Call

**Chris Hayes
(2025)**

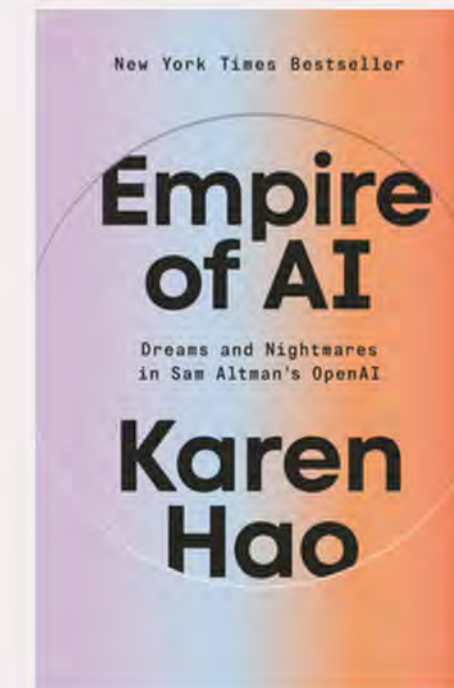
Farewell attention
Welcome division



Love to Learn

**Isabelle C. Hau
(2025)**

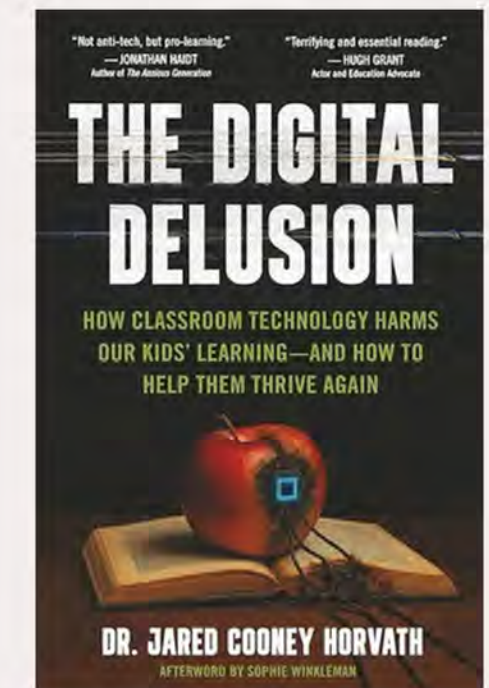
Love, Love,
Love



Empire of AI

**Karen Hao
(2025)**

Money, Money,
Money



**The Digital
Delusion**

**Jared Horvath
(2025)**

EdTech, EdTech,
Edtech

Thank you for your time today.

**Please reach out with any questions or if
interested in learning more to Jane Kim**

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